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## Efficacy of Different Methods in Decreasing the Students' Tendency towards Smoking

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### ABSTRACT

**Background:** Smoking is the first cause of preventable morbidity and mortality in the world. This study aimed to compare different methods in reducing the students' tendency towards smoking.

**Materials and Methods:** This semi-experimental study comprised all 7<sup>th</sup> grade students studying in middle schools throughout Iran in the year 2005-2006. Students were divided into 4 groups: three study groups (social skills training, increasing knowledge and poster presentation) and 1 control group. Sampling method used was multi-phase cluster.

The country was geographically divided into 5 districts (north, south, east, west and central) and the provinces were selected randomly. A questionnaire was used to collect the data. These questionnaires were designed to evaluate the attitude and knowledge of students with regard to smoking and complications.

**Results:** A total of 2911 students with the mean age of 13 years were studied out of which 7.4% were smokers.

There were significant differences between the study groups and the control group regarding the attitude and knowledge about the hazards of smoking and abuse of illicit substances. In other words, among the study groups, social skills training, building knowledge and poster presentation had the best results, respectively.

**Conclusion:** In evaluating the preventive methods, social skills training group had the most negative attitude and the highest level of knowledge concerning the disadvantages and hazards of smoking and use of illegal substances. The greatest decrease in smoking was also observed in this group. Social skills training can be an effective preventive measure to control smoking by emphasizing self-respect, problem-solving skills and self restraint. (*Tanaffos* 2008; 7(3): 53-58)

**Key words:** Training, Prevention, Social Skills, Attitude, Smoking tendency

### INTRODUCTION

Smoking is the first cause of preventable morbidity and mortality in the world. It is known as the most

preventable cause of premature death (1). Studies have shown that, on average, smokers die nearly seven years earlier than non smokers (2). Smoking is responsible for 90% of lung cancers, 40% of other cancers, 50% of cardiovascular diseases, 75% of respiratory diseases, 12% of all deaths and 30% of deaths occurring in the age range of 30-50 years (3). It seems that an epidemic of smoking and related

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morbidity and mortality is shifting towards developing countries (4).

The most susceptible time for initiating tobacco use is during adolescence and early adulthood, between the ages 15 and 24(5). According to the Global Youth Tobacco Survey report; globally, 9.5% of adolescents currently use cigarettes (6), with nearly 25% of them trying their first cigarette before the age of 10 and 19.1% susceptible towards initiating smoking during the next year (7).

Some studies indicate that smoking is often associated with other forms of high-risk behaviors such as the early initiation of sexual intercourse, alcohol abuse and drug use (5).

Considering the fact that the majority of Iran's population is youth, implementation of smoking control programs with special emphasis on preventing initiation among adolescents is a matter of importance. According to the first round of the GYTS in 2003, 2% of Iranian students (13-15 years) smoked cigarettes. This amount has increased to 3% in the second round of GYTS in 2007 (7).

We assessed different methods to know which of them is more effective in decreasing the tendency of students towards smoking.

## MATERIALS AND METHODS

This was a Semi-Experimental study to evaluate the effect of preventive programs on changing the attitude and increasing the knowledge of students. Students were divided into 4 groups: 3 study groups (social skills training, increasing knowledge and poster presentation) and 1 control group. The study population comprised all 7<sup>th</sup> grade students studying in middle schools throughout the country in the year 2005-2006. Sampling was done via multi-stage cluster. The country was geographically divided into 5 districts (north, south, east, west and central). From districts, one province and from the south and west districts, 2 provinces were chosen randomly. Thus, Mazandaran, Khorasan, Tehran, Azerbaijan,

Kurdistan, Kerman and Fars provinces were selected from the north, east, central, west and south areas respectively.

The capital of each province was selected out of which 8 schools (4 girl's schools and 4 boy's schools) were chosen.

In each school, 2 classrooms with a mean number of 30 students were selected. Out of the selected 4 girl's or boy's schools, 3 study groups (1-Social skills training 2-Increasing the knowledge and 3-poster presentation) and 1 control group with no training were selected. All 4 groups filled out questionnaires. Then, the 1st and 2nd groups participated in a 6-session curriculum each lasting for 45 minutes (one session a week and a total of 1.5 months). During this time period, some posters related to the subjects were hung on the walls of the group 3 schools so that students could see them easily. Two months after completion of the course, all 4 groups filled out the questionnaires for the 2nd time.

Social skills training program was based on Hawkins et al. studies and the social cognitive theory and the social influence increased competence.

This program aims to teach some necessary skills to students to efficiently and effectively confront the social effects of smoking and in general, increases the students' ability to fight. It also promotes the mental health, primarily prevents the social damages of addiction and substance abuse, builds the knowledge, changes the attitude and behavior and eventually develops the ability for compatibility and compliance with the changing conditions of life through education and training personal and social skills.

Building the knowledge program was performed through holding an educational curriculum on complete and comprehensive description of short-term and long-term consequences of smoking. Questionnaires were designed to evaluate the attitude and knowledge of students towards smoking

complications and smoking status of them and their family members. The reliability of knowledge and attitude questionnaires were estimated to be 0.87 and 0.89 respectively. Descriptive statistical methods were used to analyze the data. To evaluate the correlations and differences, chi-square test, ANOVA and MANOVA were used with SPSS version 12 software.

## RESULTS

A total of 2911 students with the mean age of 13 years were studied out of which 49.5% were males and 50.5% were females; 23% were in the age range of 11-12 years, 75% were in the age range of 13-14 years and 2% were 15 years or older.

Thirty-one percent of students' family members were smokers out of which, in 27% of cases the father was smoker, in 1.8% the brother, in 0.5% the mother, in 0.3% the sister and in the remaining, more than 1 family member were smokers. Almost 7.4% of students (4.8% boys and 2.7% girls) were smokers. The difference between the two sexes was statistically significant ( $p=0.000$ ). Also, there was a significant correlation between smoking by parents and cigarette smoking by their children ( $p=0.000$ ).

Most of the smoker students initiated their smoking at the age of 11 (Table 1).

The mean age of smoking initiation was 11.7 years. The prevalence of smoking was higher among Tehran and Mazandaran students. Smoking prevalence in Tehran was twice the total prevalence rate of the country.

The started reason for smoking was curiosity (5%), sadness (1.4%), offering by others (1.23%) and leisure (0.7%) (Table 2). Students acquired the cigarette mostly from others (4%) or buying it personally (3%). Boys bought cigarettes personally significantly more than girls ( $p=0.007$ ). Students mostly smoked at a friend's house or at school (3%). Results demonstrated that boys mostly smoked at a friend's house or at school while girls mostly smoked at home ( $p=0.001$ ). After our intervention, there was a significant difference between the study groups and the control group in terms of knowledge regarding smoking hazards and attitude towards smoking ( $p=0.000$ ). In other words, social skills training showed the best result followed by knowledge increasing and poster presentation.

This was also true regarding decreasing or quitting smoking and the difference between the study groups and the control group was statistically significant in this regard ( $p=0.000$ , Table 3). Social skills training had the highest effect on quitting smoking followed by knowledge building and poster presentation.

Table 1. Age of smoking initiation

	Age of experience (years)						Total
	10	11	12	13	14	15	
Boy N(%)	3(1.4%)	92(42.4%)	7(3.2%)	13(6%)	23(10.6%)	1(0.5%)	139(64.1%)
Girl N(%)	1(0.5%)	51(23.5%)	9(4.1%)	7(3.2%)	10(4.6%)	-	78(35.9%)
Total	4(1.8%)	143(65.9%)	16(7.4%)	20(9.2%)	33(15.2%)	1(0.5%)	217(100%)

Table 2. The started reason for smoking

	Curiosity	Leisure	Sadness	Offering	Others	Total
Boy N(%)	79 (36.4%)	10(4.6%)	7(3.2%)	35(16.1%)	8(3.7%)	139(64.1%)
Girl N(%)	50(23%)	4(1.8%)	8(3.7%)	12(5.5%)	4(1.8%)	78(35.9%)
Total	129(59.4%)	14(6.5%)	15(6.9%)	47(21.7%)	12(5.5%)	217(100%)

**Table 3.** Scheffe Test data summary (mean difference of control group scores and study groups scores).

Variable	Group I	Group J	Mean difference between the two groups of I and J	Standard. deviation	Level of significance
Decreased rate of smoking	Control	poster	-1.3789	0.18750	0.000
		Knowledge	-2.1846	0.20570	0.000
		Life skills	-3.4000	0.19822	0.000
	Poster	Control	1.3789	0.18750	0.000
		Knowledge	-1.8057	0.19539	0.000
		Life skills	-2.0211	0.18750	0.000
	Knowledge	Control	2.1846	0.20570	0.000
		poster	0.8057	0.19539	0.000
		Life skills	-1.2154	0.29570	0.000
	Life skills	Control	3.4000	0.19522	0.000
		poster	2.0211	0.18750	0.000
		Knowledge	1.2154	0.20570	0.000

## DISCUSSION

The prevalence of smoking was 2.6% among girls and 4.8% among boys and 7.4% in general. A significant correlation was seen between gender and the rate of smoking.

A national survey of U.S showed that 18% of 8<sup>th</sup> graders, 26% of 10<sup>th</sup> grade students and 23% of 12<sup>th</sup> grade students were daily smokers (8).

The difference between the results of our study and GYTS is probably caused by the different methods of smoking status evaluation. In our study all student who had the experience of smoking in the last 30 days were considered as smokers but in GYTS, the student who smoked daily were considered as smoker.

Out of 7.4% smoker students, almost half reported the age of smoking initiation to be less than age 12 with a mean of 11.3 years. Studies indicate that the age of smoking initiation has decreased (9) and some researchers reported that more than 95% of smokers have started smoking before the age of 19(10).

In addition, this is why WHO in its 1999 report has emphasized that “if we could yield the tobacco use to zero in the 2nd decade of life, the overall rate

in the society will decrease to less than 10% of the present rate”. (11).

In this study, the main reason for smoking was curiosity followed by sadness and offering by the others. Students mostly acquired the cigarettes through others and smoked them usually at a friend’s house.

This fact is in accord with other studies which show that juveniles usually imitate their peers in terms of law breaking behaviors such as smoking or substance abuse (12).

Evidence shows that attitudes affect the behavior (13, 14). As it was shown in our study; there is a correlation between initiation of smoking and attitudes towards it (15,16).

Some experimental studies have confirmed the effect of attitude on substance use. For example, a study on 2646 students in 7<sup>th</sup>-grade of high school indicated that their current and anticipated smoking in the upcoming year was significantly correlated with their positive attitude towards smoking (17).

Our study results indicated that among the 3 afore-mentioned interventions, social skills training

had the greatest impact on changing the attitude. Building a broader knowledge on health hazards of smoking was also effective in changing the attitude. However, in terms of knowledge, no difference was detected between the two methods of skill training and knowledge increasing. Our study results are in accord with previous studies. (18-21).

In terms of increasing knowledge changing attitude and decreasing the rate of smoking, life skills training method was the best as it has been shown by other studies. (19)

Building knowledge was the same as life skills training in increasing the knowledge but it was less effective in changing the attitude and decreasing the rate of smoking.

Poster was the least effective method in decreasing the students' tendency towards smoking.

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