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Original Article

Smoking statues and some relative factors to it in high school students in Isfahan

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Abstract

Background: Cigarette smoking, so current between the youngsters and adolescents is one of the greatest enemies of public health. This study has designed to determine the smoking patterns of the high school and pre-university students in Isfahan.

Methods: This cross sectional study has been done on 355 high school students in 2004-5. For data collection a cheklist has been applied which was answered by the students. The smoking pattern has been evaluated by standard questionnaire of WHO and its relation with personal characteristics of the students has been analyzed. The statistical analysis was done using t-test, chi-square and logistic regression in SPSS software.

Results: The results indicated that 10.3% of students were smoker and 37.9% of them had experienced smoking at least for one time. The evaluation of data showed that the age of students had no significant relationship with smoking patern but the employment of students had a significant relationship with smoking pattern. Having smoker friends had also a significant relationship with smoking.

Conclusion: The results of this study indicated that the studied students had great tendencies to experience smoking and by increasing the rate of smoker friends, the weekly and daily smoking pattern will increased.

Key words: Smoking, adolescents, students

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Smoking is the greatest enemy of public health and has been determined as the most important factor for preventable illnesses and deaths. 1.2 billions Cigarette smokers now exist; among them 800 millions live in under development countries.[1]

It causes 4 millions deaths in the world and 50 thousands people in Iran in 2001. It has been estimated that smoking will take the life of 10 millions people in 2030, that 70 percents of them live in under development countries.[2]

One WHO study indicated that 85-90 percent of smokers begin smoking before the age of 23 and many of them have their first experience at the age of 11-14. It reported that 14 percent of Iranian adolescents were smokers in 1999,[1]

Iranian studies showed that the start of smoking was at the age of 15-24 and 71% of men smokers had their first experience at the age of 13-24.[3] The increased rate of smoking in human societies, especially among adolescents is worrying because of its unknown effects. Smoking has more negative physical and mental effects in adolescence rather than adulthood. Rather than, if smoking begins at lower ages, it is more probable to be continued. The prevention of smoking among the adolescents is an important purpose in school health promotion.[4] Although many of smoking effects appear by the passage of time, many of its negative effects on physical

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and mental health are not deniable. Not only smoking has momentary negative effects, but also it may lead to drug abuse and addiction; so prevention of smoking has taken the attention of public health supporters.[5]

Identification of dangerous behaviors like smoking and its influences on each society has a great importance, considering smoking as a main gate of drug usage. This study has been done in order to define the pattern of students smoking and its relation to some other factors. We also tried to present some strategies which lead us to stop these inadmissible behaviors by presentation of smoking patterns.

Methods

This was a descriptive study done on 355 students. The studied population was high school students studying in Isfahan state schools between November 2004 and February 2005. The exclusion criteria were the existence of any mental diseases in students' documents and missing of any family members two months before data collection.

For data collection, a standard WHO questionnaire was used. It composed of two parts. The first part included demographic data of students and the second included smoking conditions and patterns. The reliability was calculated by Obryne et al[6] and we did not calculate it again. In order to achieve this purpose the smoking patterns include: not smoking, experimental smoking, monthly smoking, weekly smoking and daily smoking and its relation to the age of student, educational levels, employment while education, the ratio of friends smoking and also the presence of smokers in the family and ordinary space of smoking has been evaluated. The usage of one or two times has been considered as experimental smoking and monthly, weekly, and daily smoking has been also considered.

The students were informed that they were quite free in answering the questions and their personal data would be kept as a secret. All the questionnair took 20 minutes to be answered and during this process the students were asked not to have any information communicating. The pilot study has been done on 20 high school students in 2 separated educational centers. The Alpha Cronbach correlation has been determined for each of the questions. The questions which by their deletion the correlation would exceed 85% were omitted.

After data collection, statistical analysis was done by SPSS software. T-test was used for comparing quantity varieties and chi-square test for qualify varieties. In order to measure the ability of prediction, Logistic Regression test have been used. $P<0.05$ was considered as statistically meaningful results.

Results

This study has been done on 355 students between 13-22 years old (mean age of 16.55 , SD of 1.3) that 4 students were crossed out of studied group as they did not answer the questions.

The evaluation of students smoking patterns showed that 218/351 (62.1%) of the students had no smoking experience and 97/351 (27.6%) had once or twice smoking experience. 16 students (4.6%) were monthly, 12 students (3.4%) weekly, and 8 students (2.3%) were daily smokers. 10.3% were current smokers and totally 37.9% had experienced smoking. The results showed that the most frequency of smoking in all of the smoking patterns was between the ages of 16-18. The mean age was 16.63 years old (SD = 1.22) for the students never smoked, 16.83 (SD = 1.4) for those had experimental smoking, and 16.94 (SD = 1.37) for those who were current smokers. The mean age of students who had experimental smoking was more than of those who never smoked ($t=3.01$, $p=0.003$). But the mean age of students who had experimental smoking had no significant difference with current smokers ($t=0.39$, $p=0.69$). Table 1 shows the smoking pattern of studied students.

As the results show, experimental smoking had the greatest frequency in smoking patterns. Table 2 ahows the occupational status and table 3 shows the smoking pattern relation with smoker friends. Data analysis indicated that the confidence interval 3.775-10.474 and odd's ratio

3.288 with more smoker friends leads to more probability of smoking (p=0.001).

Table 1: Smoking status and educational level of studied students.

	1st level		2nd level		3rd level		Pre university		Total	
	n	%	n	%	n	%	n	%	n	%
No smoker	49	22.8	70	32.6	64	29.8	32	14.9	215	100
Occational smoker	11	11.3	25	25.8	36	37.1	25	25.8	97	100
Mounthly smoker	3	18.8	1	6.3	7	43.8	5	31.3	16	100
Weekly smoker	4	33.3	1	8.3	1	8.3	6	50	12	100
Daily smoker	1	12.5	2	25	2	25	3	37.5	8	100

Missing data=3

Table 2: Smoking status and occupational status

	occupied		No occupied		Total		Odd ratio	p-value	Standard deviation
	n	%	n	%	n	%			
No smoker	27	12.4	190	78.6	217	100			
Occational smoker	20	20.6	77	79.4	97	100	0.31	0.01	0.532 -0.13
Mounthly smoker	4	26.7	11	73.3	15	100			
Weekly smoker	8	66.7	4	33.3	12	100			
Daily smoker	3	37.5	5	62.5	18	100			

Missing data=2

Smoking pattern was also evaluated by family smoking. The results indicated that in the families in which the father smoked, 26.8% of students had experimental smoking and in the families in which the brothers smoked 30.6% of students smoked with the same patterns. The monthly smoking pattern between the students and their brothers was higher than the group with the smoking father (3.9% vs. 4.5%) but the frequency of monthly and weekly patterns between the students with smoking family were higher than the other groups. Logistic Regression statistical test showed that the presence of smokers in the family is not a predictor factor for students smoking.

Table 3: Smoking status and percent of smoker friends

	0%		0 – 25%		25 – 50%		50–75%		75 – 100%	
	n	%	n	%	n	%	n	%	n	%
No smoker	126	84	78	54.2	14	32.6	7	35	2	13.3
Occational smoker	24	16	53	36.8	19	44.2	5	25	4	26.7
Mounthly smoker	0	0	9	6.3	4	9.3	2	10	2	13.3
Weekly smoker	0	0	3	2.1	2	4.7	3	15	5	33.3
Daily smoker	0	0	1	0.7	4	9.3	3	15	2	13.3

Discussion

The results showed that 37.9% of students had at least one experimental smoking and 27.6% of them had tried it once or twice. According to a study by Conway et al, 25% of students had smoked.[7] Griesbacks's study was done on adolescents of some countries and showed that the rate of experimental smoking was 19.9% in Australia, 15.8% in Denmark, 13.4% in Finland, 14.6% in Germany, 15.9% in Norway, and 6.9% in Scotland.[8] Based on this study 10.3% of students in Isfahan were current smokers. The current smoking between adolescents was 19.9% in Australia, 15.8% in Denmark, 13.4% in Finland, 22.5% in Germany, 18.2% in Norway and 19.2% in Scotland.[8]

In Marla's study 15% of adolescents had daily smoking.[9] The results of our study showed that the smoking rate between students in Isfahan is significant and it is comparable with the international statistics. Comparison of Isfahanian adolescents with the same cases in European countries indicates that the tendency of Isfahanian adolescents is lower than Europeans in smoking but the curiosity for smoking experience is higher [7,8]

In this study, age has been considered as a determining factor, but it actually is not an important predictor factor for monthly, weekly and daily patterns. The higher mean age of students having experimental smoking as compared with the students who have no smoking experience shows that by reaching adolescence and entering high schools circumstances, students have much more tendency to be smoker, and therefore it is better to apply certain preventive strategies before this new stage.

Although in this study the rate of current smoking between students is lower than European countries reports, but the frequency of smoking with different patterns would increase by educational level (table 1). The direct relationship between smoking and the level of education indicated that having experimental smoking in lower educational levels leads to an increase in smoking rate. In fact pre-university students who were current smokers had experimental smoking in their lower level of education. The prevention process of smoking development in higher levels of education should be shaped as a base and it should be run by determining the activating factors of smoking.

By evaluation of the relationship between smoking and employment, we conclude that employment is an important predictor factor for smoking. Since the mean age of smokers has no significant difference with the mean age of others, we can not consider the students age as a contextual factor. What should be considered important is that employment may not be an absolute factor in smoking tendency, the reasons which force the students to work in adolescence are more important.

Currie claimed that the chaotic economical condition of the family is an important factor in raising the inadmissible and illegal behavior like drug abuse between adolescents.[10]

Economic independency can be considered as an alternative factor which prepares more financial resources compared with other students. Cronbach in his study on adolescents smoking and family structure claimed that the adolescents have more access to financial resources are more exposed to smoking.[8]

As the students' employment is almost possible in low social circumstances, we should not ignore the effect of work circumstances and students social interaction with adult coworkers. In sum, as employed students can be considered as a group exposed to smoking, it's necessary to take strategies in order to control students` work circumstances because they are exposed to smoking, and it can also be taken as an effective independent factor of students smoking.

The results of this study showed that having smoker friends is an important predictor factor; in fact as the rate of smokers friends increase the probability of smoking would do so.

The role of coevals is undeniable in adolescents' behaviors. Sometimes adolescents resort to smoking as a response to social effects and their needs to follow their friends and family members.[11] Adolescents with higher level of

social and moral growth are less affected. The direct relationship between having smoker friends and smoking in adolescents has been proved by many studies.[9,12,13]

In this study the rate of smoking among the students with none of their family members smoking is higher than the cases whose brothers or fathers smoked. Actually 33.3% of students whose families never smoked were smokers and 14.3% having monthly and 9.5% having weekly smoking.

Our results are against Cronbach who showed that the presence of smokers in the family is an important predictor factor in smoking.[8] In fact public places are the spaces in which the students spend their time with their friends. The possibility of parents control is less in these pales. Parents should take policies to lead their children, create an internal force and develop moral and social senses to decrease the tendency towards smoking.

References

1. Pourelami M. Assessment of beliefs about cigarette smoking in middle school students in Tehran: implication for intervention. Arch Iranian Med 2003; 6(2):95-102.

2. Ahmady J, Ghanizadeh A. Current substance use among Iranian medical students. Indian Journal of Psychiatry 2001; 43(2):44-8.

3. Sarraf-Zadegan N, Boshtam M, Shahrokhi S, Naderi GA, Asgary S, Shahparian M, Tafazoli F. *Tobacco use among Iranian men, women and adolescents. Eur J Public Health. 2004 Mar;14(1):76-8.*

4. O'Byrne KK, Haddock CK, Poston WS. Parenting style and adolescent smoking. J Adolesc Health 2002; 30(6):418-25.

5. Pruss U, Brandenburg A, von Ferber C, Lehmkuhl G. [Patterns of behaviour of juvenile smokers and non-smokers]. Prax Kinderpsychol Kinderpsychiatr 2004; 53(5):305-18.

6. Brook JS, Schuster E, Zhang C. Cigarette smoking and depressive symptoms: a longitudinal study of adolescents and young adults. Psychol Rep 2004; 95(1):159-66.

7. Conway KP, Kane RJ, Ball SA, Poling JC, Rounsaville BJ. Personality, substance of choice, and polysubstance involvement among substance dependent patients. Drug Alcohol Depend 2003; 71(1):65-75.

8. Griesbach D, Amos A, Currie C. Adolescent smoking and family structure in Europe. Soc Sci Med 2003; 56(1):41-52.

9. Eisenberg ME, Forster JL. Adolescent smoking behavior: measures of social norms. Am J Prev Med 2003; 25(2):122-8.

10. Currie CE, Elton RA, Todd J, Platt S. Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children Survey. Health Educ Res 1997; 12(3):385-97.

11. Masen HP. Growth and development. Trans. Yasaee M. Tehran: Sadi; 1380.

12. Conrad KM, Flay BR, Hill D. Why children start smoking cigarettes: predictors of onset. Br J Addict 1992; 87(12):1711-24.

13. Jackson C. Perceived legitimacy of parental authority and tobacco and alcohol use during early adolescence. J Adolesc Health 2002; 31(5):425-32.