

SMOKING AMONG SCHOOL CHILDREN AND PARENTAL SOCIOECONOMIC STATUS

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ABSTRACT

Background: There is a growing epidemic of tobacco use among adolescents in the developing world. However, there is no up to date information on smoking among adolescents in Pakistan. Adolescence is the time of life when people are more interested in taking risks and testing the boundaries of the world outside as well as their own limits. **Objectives:** To assess prevalence of smoking and some social factors involved in initiation of it in school adolescents and to formulate recommendations to plan the campaign to prevent and control smoking by school based prevention program. **Subjects and Methods:** A cross sectional study was conducted in two high schools of Liaquatpur. A total of 300 students, 152 from 9th and 148 from 10th class were taken having mean ages 14.4 and 15.5 respectively. A questionnaire was given and response of each student was noted individually. **Results:** In present study out of 300 students, 37(12.33%) were found smokers. Regarding class wise the proportion was 11.18% and 13.51% in 9th and 10th classes respectively, which shows higher prevalence with increasing age. The prevalence was higher among the children of land Lords and Businessmen. Similarly the education of father has impact upon the smoking prevalence as it was significantly low as compared to those of illiterate parents. The occupational status and education of mother has non-significant effect over prevalence of smoking. **Conclusion:** The prevalence of smoking in school adolescents of Pakistan is low as compared to many countries but still it is higher than some other countries of the world. Many social factors are involved in initiation of smoking. So there is need to control and prevent this initiation by causing awareness in the parents and school based prevention programs.

Key words: Smoking, school, adolescent, social status

INTRODUCTION

Tobacco smoking is a major public health problem and one of the leading causes of preventable death, particularly in the developed countries. According to World Health Organization (WHO) tobacco use is currently responsible for the death of one in ten adults' worldwide (about 5 million deaths each year). Moreover, it is expected that if the circumstances remain as such, within 25 years the annual death toll will double.¹

Cigarette smoke contains about 4000 substances, among which nicotine, tar and CO are the main toxic substances. It also generates nitrogen oxide, hydrogen cyanide and free radicals.² Cigarette smoking among adolescent is one of the 10 leading health indicators that reflect the major health concerns in the United States.³ Unless current smoking patterns are reversed, the WHO estimates that by the decade 2020-2030 tobacco will be responsible for 10 million deaths per year,

with 70 % of them occurring in developing countries.⁴

Tobacco smoking rates are increasing in developing countries and so are tobacco-related chronic diseases. Reported figures from the WHO show rates of smoking in Egypt as high as 20% but limited information is available about smoking specifically among physicians and medical students.⁵ In Pakistan, it is estimated that the prevalence of tobacco smoking is 36% for males and 9% for females.⁶ Approximately 1200 children start smoking every day.⁷ A simpler ecological model of development during young age theorizes that there is a complex interaction between individual and contextual factors, including the influence of the community, peers, school, family, society and media in general.⁸ The use of tobacco in adolescence is also associated with use during adulthood.⁹ Students who have school mates and/or parents, who smoke, are more likely to smoke themselves.¹⁰

Longitudinal data collected annually from 1246 schools found that the irregular use of cigarettes (not daily) can trigger nicotine addiction. Symptoms of premature addiction accelerate the frequency of tobacco use, and those who smoke more often tend to show more symptoms of addiction.¹¹ Regular smoking practice in adolescence is a big worry because of its association to daily smoking and

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nicotine dependence. It is estimated that three out of four adolescents who smoke will continue to do so when becoming adults.¹² A recent systematic review has shown that the frequency of relapses in trials to quit smoking is high among adolescents who smoked regularly, including younger ones and those who weren't daily smokers.¹³ Regular smoking in adolescence is associated with a poor health condition, including reduction of lung functions, increase of asthma attacks and bronchitis and reduction of physical fitness.¹⁴ Life-course analysis shows that adverse circumstances during childhood, including smoking, are associated with a worse self-assessment in terms of health in adulthood.¹⁵ A simpler ecological model of development during young age theorizes that there is a complex interaction between individual and contextual factors, including the influence of the community, peers, school, family, society and media in general.¹⁶ The legal reinforcement which prohibits selling cigarettes to minors seems to have contributed to the reduction of 47% of the prevalence of daily smokers among youngsters in the USA between 1997 and 2003.¹⁷ According to a report, total cigarette consumption increased in developing countries by 3.7 percent per annum, a rate almost ten times higher than that of developed countries with similar increase, in projections of tobacco production, consumption and trade to the year 2010.¹⁸ The objectives of present study were to assess prevalence of smoking and some social factors involved in initiation of it in school adolescents and to formulate recommendations to plan the campaign to prevent and control tobacco use by school based prevention program.

SUBJECTS AND METHODS

A descriptive, cross sectional study among the 300 Students of 9th & 10th class of two only government high Schools of City Liaquatpur, District Rahim Yar Khan was conducted. 152 students of 9th and 148 students of 10th class having ages of 13-16 years were selected. Casual (who smoke cigarettes at least twice a week) as well as regular smoker (who smoke daily even at least one cigarette a day) were included in study. A questionnaire was given to the students individually and response from each student was noted personally. Then data was collected and analyzed in SPSS version 11.

RESULTS

This descriptive study showed that overall 12.33% students were smoker, with 11% & 13% of the 9th & 10th class students respectively reported smoking (Table I).

Table I: Class wise distribution of smokers (N=300)

Class	Total students	Smokers	Percentage
9 th	152	17	11.18
10 th	148	20	13.51
total	300	37	12.33

P>0.05)

Table II: Frequency distribution of smokers according to parental occupational status (N=37)

Fathers Occupational Status	Frequency	Percentage	Mothers Occupational Status	Frequency	Percentage
Employees	2	8.10	Working Women	17	45.95
Business men	7	29.73	House wives	20	54.05
Land Lords	11	43.25	Total	37	100
Farmers	2	5.41			
laborers	3	5.41			
Any others	2	8.10			
Total	27	100.00			

Regarding the frequency of smoking according to parental occupational status, it was noted that 43% & 29% of the smoker students had father occupation as landlord, businessman respectively, whereas, 45% & 55% of the mothers were working women & housewives respectively (Table II) and the difference for businessman & landlords versus other was statistically significant (p<0.05).

Table III: Distribution of smokers according to monthly income of family. (N=37)

Income groups	Frequency of Smokers	Percentage
< 10,000	8	21.62
10,000 – 20,000	11	29.73
>20,000	18	48.65
Total	37	100

Our results showed that 48% of the smoker students had family income above 20000/- (Table-III) and the difference with other groups was statistically significant (P<0.01).

Table IV: Distribution of smokers according to parental educational status. (N=37)

Educational status	Father's Educational status		Mother's Educational status	
	Frequency	Percentage	Frequency	Percentage
Illiterate	19	51.35	14	37.83
Matric	11	29.73	10	27.04
Above Matric	7	18.92	13	35.13
Total	37	100	37	100

It was noted that majority (51%) of smoker students had mentioned father education as illiterate whereas, 37% had mentioned mothers education as illiterate. The difference of "illiterate" father to other educational groups was statistically significant ($p < 0.05$).

DISCUSSION

This study showed the overall prevalence of smoking of 12.33% in the school children with 11.18 % in 9th and 13.51% in 10th class. This prevalence is lower as compared to that found in other countries. In a survey by WHO in 2001/2002 the prevalence of smoking among the students of 35 European countries of high school students of the age of 13 and 15 years was found 43% and 62 % respectively.¹⁹ In Pakistan, it is estimated that the prevalence of tobacco smoking is 36% for males and 9% for females.⁶

This study is also consistent with a very vast Global Youth tobacco survey conducted in 2000-2007 under coordination of the Centre for Disease Control, which includes a sample of high school students between the age of 13 and 15 years in 151 countries, reported an overall prevalence of regular use of tobacco in 9.5% of the sample, ranging from 4.9% in region of Americas, to 19 % in the European region.²⁰ Similarly, in Thailand the prevalence of current smokers have been found 19.5 % in 2005.⁴

In Australia also young people have the higher rate of smoking prevalence as compared to our rate. In 2004, 17.4% of the Australian population aged 14 years and over reported smoking daily, whereas for the 14-29 year old age group the prevalence was at 34.2%.²¹

In present study, it has been observed that prevalence of smoking is higher among the elder students of class 10th (13.50 %) as compared to those of class 9th (11.18 %). Although it is non-significant ($p > .05$) the trend is consistent with the

study in which the prevalence was similarly higher according to age, from 16.15% among the students aged 13 years to 41.30% among those who were 16 years or older.²² The similar trend is found in Europe,¹⁹ but on contrary in India a study showed that the 6th grade students (average age of 13 years) who ever smoke have higher prevalence (24.8%) as compared to 8th grade students (9.3%), similarly current smokers of same grade have values 6.7% and 2.9% respectively.²³ In another Survey in Chennai and Delhi in 2004-2006 the similar trend was found.²⁴ These figures are contrary to our study.

Regarding occupational status of father, this study showed higher prevalence among the children of Land lords and businessmen as compared to employees, farmers, laborers and people of other classes ($p < .05$). Many studies showed variable results regarding involvement of social status and prevalence of smoking. A review of literature showed that adolescents of lower socioeconomic status (SES) smoke more often than do the peers of higher SES,²⁵ though some studies fail to find such a relationship.^{26,27}

The children of working women have no significant difference in smoking prevalence (45.95%) as compared to those of house wives (54.05%). Similarly the education of the mothers has similar effect on attitude of their children towards smoking. It is consistent with the study conducted in Brazil in which no association between smoking prevalence and mother's education was found.²²

The education of father has profound effect on the adolescents towards smoking behavior. The smoker children of educated parents are less in number as compared to those those of illiterate fathers. The smoking trend in children of educated and illiterate father is found 18.52% and 51.85% respectively which is significantly different ($p < .01$). It is compatible with the study conducted in turkey. It shows that students whose father had education less than 8 years have higher rates of smoking.²⁸ It is favored by other studies also.^{29,30}

The family income also has an effect on the prevalence of smoking in school children. The higher trend is related with the higher income. The prevalence of smoking found in this study is 21.62% in families with income less than Rs.10, 000 per month (PM), 29.73 % in parents getting Rs.10, 000 - 20,000 PM as source of income and 48.65 % in the families earning more than Rs. 20,000 PM. The study

is in consistence with the similar trend observed in a study in the Brazilian adolescents.^{22,31}

CONCLUSION

The prevalence of smoking in school adolescents of Pakistan is although low as compared to many countries but still it is higher than some other countries of the world. Many social factors like occupation, education and family income of the parents are involved in higher prevalence of smoking. There is need of evaluation of further factors which may be involved in smoking trends.

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