

## Original Research Article

# Prevalence of cigarette smoking among adolescent boys of Srinagar: a school based cross sectional Survey

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### ABSTRACT

**Background:** Tobacco use is one biggest health hazards in the world posing various physical and psychosocial risks. At a moment the spread of tobacco use is growing at fast rate in the adolescents, who are the future of the country. However, little information is known about the magnitude of tobacco use in adolescents. The aim of the study was to assess the prevalence and associated factors of cigarette smoking among adolescents of Srinagar city.

**Methods:** This school based cross sectional study was conducted from June 2015 to March 2017 in 20 high schools selected randomly from public and private sectors. Students (boys only) [n=1200] from grade 9-12, in the age limit of 13-19 were included in the study. Data were collected by self-administered questionnaire that is adapted from global youth tobacco survey questionnaire. Bivariate and multivariate analysis were made using logistic regression on SPSS version 20.0 software in order to predict factors associated with tobacco use.

**Results:** The prevalence of cigarette smoking among adolescent boys was found to be 29% ever smokers, and 23% current smokers. In addition, more than half [60.8%] of adolescents were exposed to tobacco smoke from others in public places. In the multivariate analysis parent smoking, peer smoking, exposure to movie with actors smoking, not being exposed to anti-smoking media messages, not discussing in the class about danger of smoking, were significantly associated with current cigarette smoking among adolescents.

**Conclusions:** The prevalence rate is increasing in its spread, exposure to environmental tobacco exposure is widespread. Moreover adolescents should be enriched with the knowledge on the dangers of tobacco use.

**Keywords:** Global youth tobacco survey, Health hazard, Cigarette smoking

### INTRODUCTION

Cigarette smoking is one of the biggest health hazard and a major preventable cause of morbidity and mortality. Despite the fact that the hazards of smoking are well known, the number of young people who take up cigarette smoking is increasing especially in developing countries.<sup>1</sup> Of the 1.22 billion smokers, 1 billion of them live in developing or transitional economies. Rates of

smoking have leveled off or decreased in the developed world.<sup>2</sup> Cigarette smoking is the commonest form of tobacco use and in developed countries accounting for at least 80% of overall tobacco consumption.<sup>1</sup> In the developing countries the prevalence among the youths seems to be increasing.<sup>1</sup> In ranking addictive drugs, nicotine was determined to be more addictive than heroin, cocaine, alcohol, caffeine and marijuana.<sup>3</sup> Early onset of smoking leads to more active years of smoking

with its health hazards. It is therefore important for researchers to study cigarette smoking trends among the youths and the factors that leads to its onset. This is also in agreement with the World Health Organization (WHO) demand for more efforts and cooperation among health advocates and practitioner in reversing the current trend in Tobacco use.<sup>4</sup> To be able to contribute to this global effort, we set out to study the current cigarette smoking habits among students of senior secondary schools in the city of Srinagar, the summer capital of Jammu and Kashmir.

It is expected that the findings will provide needed informations that may aid further policy formulations for effective tobacco control in our state.

## METHODS

This school based cross sectional study was conducted from June 2015 to March 2017, in 20 school of Srinagar, adolescents aged 13-19 years enrolled in grade 9-12 in the public and private schools of various parts of Srinagar city were included.

### *Sample size and sampling procedures procedure*

Sample size was calculated by using single population proportion formula with the assumption of 50% proportion of tobacco use among adolescents, 5% margin of error, and 95% confidence interval. Hence the sample size calculated was 1200 samples.

### *Data collection procedures*

Global youth tobacco survey (GYTS) questionnaire was used to conduct the survey. This questionnaire is self-administered type of questionnaire, which consisted of a core component and an optional component. The core questions have been used in all countries conducting the GYTS. The GYTS core questionnaire aims to collect the following information: prevalence of cigarette smoking and other tobacco use among young people; knowledge and attitudes of young people towards cigarette smoking; role of the media and advertising on young people's use of cigarettes; access to cigarettes; tobacco-related school curriculum; exposure to environmental tobacco smoke (ETS) and cessation of cigarette smoking. All the questions were multiple choices.

Moreover, survey procedures were designed to protect the student's privacy by allowing for anonymous and voluntary participation.

### *Definition and measurement of outcome variable*

Current status of smoking was assessed using question: during the past 30 days (one month), on how many days did you smoke cigarettes?

## *Data processing and analysis*

Data were analyzed using SPSS version 20.0 software and Proportions and 95% confidence intervals were obtained as estimates of prevalence. Associations between independent variables and dependent variables were analyzed first using bivariate analysis to identify factors which are significantly associated with tobacco use. Then multiple logistic regression was applied using enter method with  $p < 0.05$  and  $p > 0.25$  criteria to enter and exit from the model respectively. The magnitude of the association between the different independent variables in relation to dependent were measured using odds ratios and 95% confidence interval (CI) and p values below 0.05 were considered statistically significance. Hosmer-Lemshow goodness-of-fit was applied to find the appropriateness of model.

### *Ethical consideration*

Ethical clearance was obtained from the ethical committee, and then informed consent was obtained from the study participants after explaining the purpose of the study. Participants were assured that their name will not be stated, data will be kept confidential and anonymous and it will be used only for research purpose. Confidentiality of the information given by the respondent was maintained and the privacy of the students was kept during data collection.

## RESULTS

A total of 1200 respondent's data were analyzed, with the response rate of 100%. All of them were boys in the age category of 13-19 years (Table 1).

**Table 1: Age distribution.**

Age in years	No. of students
13-14	231
14-15	282
15-16	148
16-17	156
17-18	180
18-19	203
<b>Total</b>	<b>1200</b>

### *Prevalence of cigarette smoking*

Among the surveyed school adolescents 29% were those who smoked cigarette at least one puff. An estimated 23% of the adolescents were current smokers (Table 2).

Majority of the respondents (18.1%) first initiated smoking at the age interval of 14–15 years. Among the respondents 181 (15.1%) of them usually smoked 2-5 cigarettes on the days they smoked, and majority (14.8%) of them buy their cigarette often from shop. Moreover, 16.1% of the respondents who are smoking currently

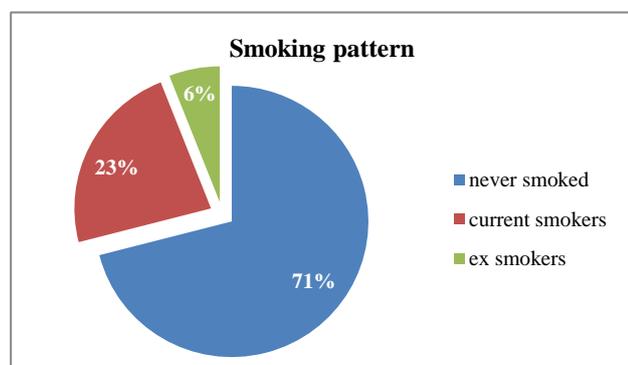
spend more than 1000 rupees for cigarette in the last month preceding the survey.

**Table 2: Age wise prevalence of smokers.**

Age in years	No. of smokers	Percentage (%)
13 -14	12/231	5.20
14-15	36/282	12.76
15-16	45/148	30.40
16-17	74/156	47.43
17-18	56/180	31.11
18-19	53/203	26.10
<b>Total</b>	<b>276/1200</b>	<b>23.00</b>

**Knowledge and attitude perceived about smoking**

Overall, 235 (19.6%) of adolescents think that boys who smoke cigarettes have more friends. Likewise, 376 (31.4%) of adolescents think that boys who smoke are more attractive. Almost all of the surveyed adolescents (94.6%) showed they definitely think that cigarette smoking is harmful to health. Only 18.6% of the surveyed school adolescents indicated that they discussed the harmful effects of smoking with a family member or with friends. Majority of the adolescents (82.8%) indicated that once someone starts smoking it is difficult to quit. Parents of the adolescents were smokers in 85.1% of current smokers. Similarly almost all of the adolescents smoking currently have smoker closest friends.



**Figure 1: Smoking pattern.**

**Environmental exposure to tobacco smoke**

Majority of the adolescents (84.6%) think that smoke from others is harmful to them. Moreover almost all the adolescents (95.7%) indicated that smoking should be banned from public places.

**Attitude towards stopping smoking**

Among those currently smoking, 172/276 (62.3%) of the adolescents want to stop smoking cigarette at the time of survey. However, only 56/276 (20.2%) of them tried to stop smoking cigarette during the past year. Moreover

among half of the currently smoking adolescents indicated that they would be able to stop smoking if they wanted to do and only half of them received help or advice that encourage them to quit smoking.

From ever smokers around 40% of the adolescents had quit smoking cigarette in the last year, and they have mentioned reasons for quitting.

**DISCUSSION**

Tobacco use is one of the most serious public health problems globally. This study aiming at assessing the prevalence and factors associated with tobacco use among adolescent boys of Srinagar, the summer capital of Jammu and Kashmir, has described the magnitude and predictors of tobacco use and discussed as follows.

Researches on current smoking prevalence and behaviors among adolescents have reported disturbing trends for the future. The Global Youth Tobacco Survey, assessing data from more than 130 countries, has found that: the gap in smoking rates between school-aged girls and boys is decreasing, use of tobacco products other than cigarettes is widespread, a sizeable proportion of children who do not smoke are contemplating adopting the behavior, and children are widely exposed to secondhand smoke.<sup>5-10</sup> Similarly, this study has indicated increased prevalence of tobacco use among adolescents.

The prevalence of ever smoker among adolescents was found to be 29%, and current smokers were 23%. This finding of the present study is relatively higher than the prevalence from many countries globally.<sup>11,12</sup>

This study also revealed that exposure of adolescents to second hand smoke is unacceptably very high, where over 6 in 10 are exposed to smoke in public places even though almost all the students are favoring law prohibiting smoking in public places and agreed in banning. This finding of the current study is much higher from the study finding conducted in some other countries.<sup>13,14</sup> There is a need to intensify the law banning smoking in public places in order to protect nonsmokers from second hand smoke, as it causes danger to the health of individuals.

On the other hand since there is no strict prohibition of sales of tobacco products to minors (to children less than 18 years of age), the level of underage sales of tobacco products is significantly higher, almost all of current smokers showed that they purchased cigarettes in a shop that weren't refused because of their age. This data has a clear message that an easy access to tobacco products could lead to an increase in tobacco use among the youths; which in turn can increase the current smoking rate.

Many reviewed studies have shown that adolescents whose parents are smokers are more likely to use tobacco

than those adolescents whose parents are not smokers.<sup>11,12</sup> Similar finding is seen in the present study too.<sup>11</sup>

A number of studies have implicated tobacco industry advertisement as possible causal agents in the stimulation of demand for cigarettes among adolescents.<sup>15-19</sup> However the present study revealed that tobacco industry advertisement on billboard are not associated with tobacco use among adolescents. This inconsistency might be due to there is a ban of advertisement of tobacco products and sponsorships by tobacco industries on media, billboard, and any sport or other events. On the other hand anti-smoking media messages are seen protective of tobacco use among adolescents. This show us smoking prevalence can be decreased and its spread can be halt through strengthening media anti-smoking messages.

Several review articles have shown that smoking in movies is associated with increases in adolescent smoking initiation.<sup>20</sup> Positive images through pro-advertisements in movies, dramas, spots, and access to other television channels, a significant number of youths are made to believe that smoking is 'cool', fun, glamorous, and modern, and watching their role models smoke further encourages them to smoke. Similarly another study in US revealed that those adolescents who had watched more movies with smoking depiction are more likely to be smokers.<sup>21</sup>

More than three-fourth of the adolescents didn't discussed the dangers and effects of smoking in class during the past year, these shows the health hazards of smoking are not being adequately given within the school environment. Adolescents who were not taught about the danger of smoking in the class are more likely to use tobacco than those who were taught. In addition, those adolescents who perceived the danger of tobacco use are less likely to use tobacco. This result shows that there is a need to revise school curriculums, refresh the school community about the dangers of tobacco, and need for strong engagement for increasing the awareness of the students.

Since this study is cross sectional survey using GYTS, it might not show cause effect relationship. Therefore we recommend another study in order.

## CONCLUSION

In conclusion, the prevalence of cigarette smoking among senior secondary school student in Srinagar city is significantly high and the trend is on the increase and it is very important that aggressive antismoking campaigns backed by effective legislation be put in place to reduce this trend.

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