Research Article

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Study to find factors influencing first tried tobacco use among adolescent students in Bhopal city of Madhya Pradesh, India

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ABSTRACT

Background: Tobacco use among school children is becoming a serious problem in developing countries. Nearly 8–9 lakh people die every year in India due to diseases related to tobacco use. The present study is done to get information regarding age of first tried and factors that influence this so as to get planning of interventional corrections.

Methods: School-based cross-sectional descriptive study was carried out among 2285 Adolescent students in Bhopal city. Data was collected by an anonymous self administered modified Global Youth Tobacco Survey Questionnaire and Data were analyzed by frequency distribution tables, chi square test and univariate logistic regression as required. To explore the age and factors influencing initiation (first tried) of tobacco use among the study population.

Results: Amongst all adolescent students 415 (18.2%) ever used the tobacco product in one or other form and 1870 (81.8%) never used the tobacco. Maximum 117 (28.2%) of students initiated tobacco use at the age of 10 years. Most common influencing factors for initiating tobacco use amongst tobacco users was experimentation/curiosity in 229 (55.2%).

Conclusions: Most of the ever-users initiated tobacco use at ≤ 10 years of age. The majorities of them are initiated of tobacco use by curiosity/experiment.

Keywords: Adolescents, School health, Tobacco initiate, Curiosity, Experiment, First tried

INTRODUCTION

India is the world's second largest consumer and third largest producer of tobacco.¹ In the Indian context, tobacco use implies a varied range of chewing and smoking forms of tobacco available at different price points.²

Tobacco use among school children is becoming a serious problem in developing countries. Nearly 8–9 lakh people die every year in India due to diseases related to tobacco use.³ It has been estimated that cigarette smoking is responsible for more than one million pre mature deaths every year all over the world.⁴

There is growing recognition that because of a combination of biological, psychological and social factors, adolescents face many challenges and health risks such as unprotected sex, substance abuse, accidents and violence. Recent trends indicate that the smoking prevalence rate among adolescents is rising and age of initiation is becoming younger.⁵

Average age at initiation of tobacco use was 18 years with 26% of females starting tobacco use before the age of 15. Further, the report revealed widespread tobacco use among the youth, with more than 15 percent of children less than 15 years of age, and nearly 25 percent of those between 15 to 17 years consuming tobacco. The

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mean age of starting tobacco use was found to be 18 years for boys and 17 years for girls.¹

The young people of today are tomorrow's adults.² Young smokers are particularly at risk of CVD, especially young men.⁶ a quarter of tobacco-related deaths are accounted for by coronary artery disease (CAD).⁷

Very few studies have been conducted regarding age initiation of tobacco use among adolescents in Bhopal (Madhya Pradesh). Looking at the gravity of complications related with tobacco use in adolescents, the present study has been planned to explore age initiation of tobacco use among adolescents.

METHODS

It is a cross-sectional descriptive study on adolescent student of grade 8th, 9th and 10th from secondary schools in Bhopal city. Students absent on the day of the survey or Students unwilling were excluded from the study.

Two stage simple random sampling was used in the study. In first stage 13 govt. and 13 non govt. schools were selected randomly by the lottery method from the different regions of the city. In second stage 30 students were randomly selected from each grade from selected schools so each school drawn total 90 student. Sample size was calculated by using the formula 4pq/12, Where: p = the prevalence of the tobacco use (smoking +smokeless, 16.5% from Madhya Pradesh (M.P) India GYTS data fact sheet 2003); q = (1-p); l = Allowable error 10%.

Assuming 10% Non response rate 2250 students were considered as a final sample size. Finally 2285 questionnaires (1122 from governmental schools and 1163 from non-governmental schools) were included in the analysis. Data collected by an anonymous self-administered questionnaire in Hindi as well as in English language. Data was analyzed using frequency distribution tables, $\chi 2$ (chi-square test) and univariate logistic regression. Permission has been obtained from the RAC (Research advisory committee) and IEC (Institutional ethical committee) of the institution. Strict confidentiality of data has been maintained.

RESULTS

Amongst all adolescent students 415 (18.2%) ever used the tobacco product in one or other form and 1870 (81.8%) never used the tobacco. The use of tobacco was found to be higher amongst boys 335 (80.7%) as compared to girls 80 (19.3%) and this association was highly significant. Use of tobacco was more in governmental schools 257 (61.9%) as compared to nongovernmental schools 158 (38.1%). The use of tobacco is increasing with age and up to 99% users were addicted by age of 16 years (Table 1).

Maximum 117 (28.2%) of students initiated tobacco use at the age of 10 years as compared to only 17 (4.1%) who initiated at 7 year of age. Age at first tried of tobacco use was found to dramatically increase at nine years of age until 10 years and then decreased subsequently (Table 2, Figure 1).

Tobacco users n=2285 Ever user Never user Category No. (%) No (%) (p.value) 1870 (81.8) 415 (18.2) **Boys** 335 (80.7) 918 (49.1) 137.214 Gender Girls 952 (50.9) (<.0001) 80 (19.3) Govt. 257 (61.9) 865 (46.3) 33.373 School Non Govt. (<.0001)158 (38.1) 1005 (53.7) $\sum \%$ $\sum %$ Age 422 (22.6) 22.6 12yr 69 (16.6) 16.6 13yr 86 (20.7) 37.3 408 (21.8) 44.4 14yr 77 (18.6) 55.9 433 (23.2) 67.6 25.175 (<.0001) 15yr 123 (29.6) 85.5 392 (21.0) 88.6 99.0 16yr 56 (13.5) 186 (9.9) 98.5 100 100 17yr 4 (1.0) 29 (1.6)

Table 1: Socio demographic characteristics of tobacco user adolescent students n=2285.

The age of Initiation of tobacco use was earlier by a few months among girls (9.98 yrs) than boys (10.15 yrs). Similarly, adolescent students of non-governmental schools initiated tobacco earlier (10.25 yrs) than adolescent students of governmental schools (10.03 yrs) (Table 3).

Most common influencing factors for initiating tobacco use amongst tobacco users was experimentation/Curiosity in 229 (55.2%) students followed by imitating or copy in 131 (31.6%) students, peer pressure 33 (7.95%) students and other factors 22 (5.3%) students. (Table 4, Figure 2).

Table 2: Age of initiation (first tried) of tobacco use amongst ever users n=415.

| Age at | 7yr | 8yr | 9yr | 10yr | 11yr | 12yr | 13yr | Total |
|-------------|----------|-----------|-----------|------------|------------|-----------|---------|-----------|
| First tried | No. (%) | No. (%) | No. (%) | No. (%) | No. (%) | No. (%) | No. (%) | No. (%) |
| Ever users | 17 (4.1) | 47 (11.3) | 55 (13.3) | 117 (28.2) | 110 (26.5) | 67 (16.1) | 2 (0.5) | 415 (100) |

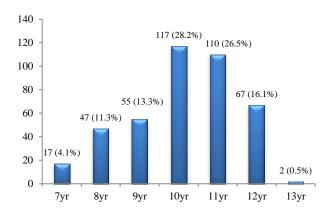


Figure 1: Age of initiation (first tried) of tobacco use amongst ever users n=415.

Table 3: Distribution of adolescent students initiating tobacco use before 10 years of age (n=119) and the mean age of initiation of tobacco (n=415).

| Category | | Proportion below 10 years of age No. (%) | Mean age | |
|----------|-----------|--|------------|--|
| Sex | Boys | 100 (84.03%) | 10.15±1.40 | |
| | Girls | 19 (15.96%) | 9.98±1.23 | |
| School | Govt. | 75 (63.02%) | 10.03±1.38 | |
| | Non Govt. | 44 (36.97%) | 10.25±1.35 | |

Table 4: Influencing factors for initiating tobacco use amongst tobacco users (n=415).

| Influencing factors | Peer pressu re /friend s | Imitati ng/ Copy | Experim entation/ Curiosit y | Others | Total |
|------------------------|--------------------------------------|------------------------|---------------------------------------|--------|-------|
| | No. | No. | No. | No. | No. |
| | (%) | (%) | (%) | (%) | (%) |
| Everyeers | 33 | 131 | 229 | 22 | 415 |
| Ever users | (7.95) | (31.6) | (55.2) | (5.3) | (100) |

DISCUSSION

About 28.7% adolescent students initiated tobacco use before 10 years of age. The age of initiation of tobacco found in this study the result is all most similar to studies

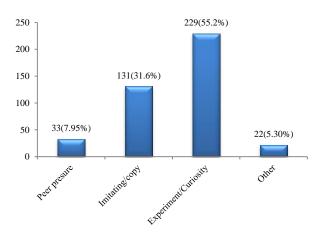


Figure 2: Influencing factors for initiating tobacco use amongst tobacco users (n=415).

showed that same results in Kapoor et al., 1995⁸ says majority of tobacco users had started the habit at 10-15 years of age, 36% had smoked at least once before the age of 10 years. Swart et al., 20039 in his study on the issue of age of initiation, 18.5% of students reported before the age of 10 years. Pedneker and Gupta, 2004¹⁰ found similar finding in which over 40% students reported initiation at 10 years of age or earlier. Sinha et al., 2004¹¹ also reported tobacco use at 10 year of age or earlier. Singh et al., 200512 observed among 29.2% ever users have initiated tobacco from they were 8 year old. Biswas and Sarkar, 2010¹³ reported age of initiation of tobacco at age before 10 years. Narain et al., 2011¹⁴ reported all most similar finding in which nearly 70-80% of students initiated the habit of tobacco before the age of 11 years.

When we analyze the trend of age of initiating (first tried) the tobacco use it increased significantly after the 9 years of age. During this age, adolescents' activities are less supervised by their parents than in their earlier life and also are more influenced by the activities and behavior of peers especially older students.

Experiment/Curiosity (55.2%) and Imitating (31.6%) is common practice among adolescents who influences them to use tobacco. Similar finding reported from Ravishankar and Nagarajappa, 2009¹⁵ found the study 35% Curiosity and 31.4% peer pressure were the main reasons behind trying tobacco a significant influence on adolescents experimenting tobacco. Malhotra et al.,

2009¹⁶ observed in his study that about 68% of the students reported peer pressure as the single most important reason for initiating tobacco use followed by curiosity 24.3%. Ningomban et al., 2011¹⁷ also reported majorities (81%) of ever users reported that an Enjoyment (41%) and curiosity (24%) were the most commonly reported reasons for tobacco use.

CONCLUSION

Most of the ever-users initiated tobacco use at ≤ 10 years of age. The majorities of them have initiated tobacco use by curiosity/experiment. Those experimental users will be potential regular users in the future.

Recommendation

School based educational programs focusing on all forms of tobacco (both smoked and smokeless) should be planned and implemented. Special attention and culturally-appropriate education programs should be targeted at the adolescent students. Different intervention programs should focus on different aspects like discourage the initiation of tobacco amongst young students between 9-12 years of age. Corrective intervention should be implemented before 10 years of age as it is found to be mean age of initiation of tobacco use.

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