

Original Research

Prevalence of Tobacco Products Abuse among School Going Adolescents in the Field Practice Area of Mahatma Gandhi Medical College and Hospital, Jaipur

Rohit Dhandoria¹, Archana Paliwal²

¹PG 3rd year student, ²Assistant professor, Department of Community Medicine, Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, India

ABSTRACT:

Background: Tobacco is the leading preventable cause of death in the world. The practice of tobacco use is usually initiated in adolescent age to get short time pleasure and to mimic as elder and peers group. Hence; the present study was planned for assessing the prevalence of tobacco products abuse among school going adolescents in the field practice area of Mahatma Gandhi Medical College and Hospital, Jaipur. **Materials & methods:** The sample size was 1450. Subjects was selected equally from the field practice area of Mahatma Gandhi Medical College and Hospital i.e., 725 students were selected from the schools (Government and Private) of rural area and 725 students were selected from the schools (government and private) of urban area. A predesigned and pre tested questionnaire was used to collect following information. The data was entered in MS office excel worksheet and appropriate statistical tests was used to find significant association. **Results:** The prevalence of “ever tobacco user” was 20.62% and “current tobacco user” was 17.05% and both were higher among boys. The mean age of initiation was 10.66 years. Nearly half of the tobacco users were using tobacco in non smoker form. The main factors which were influencing tobacco use among the students was peer pressure, experimentation for fun, as a style quotient, influenced by favourite actors/actresses and TV shows or movies and stress. **Conclusion:** Targeting the adolescents for tobacco control measures will ensure long term benefits to the country in terms of health and economy.

Key words: Adolescents, School, Tobacco.

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Corresponding author: Dr. Rohit Dhandoria, PG 3rd year student, Department of Community Medicine, Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, India

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INTRODUCTION

Tobacco is the leading preventable cause of death in the world. Tobacco is consumed in various forms such as smoking and chewing. Tobacco is a plant grown for its leaves, which are smoked, chewed or sniffed for a variety of effects. It is an addictive substance as it contains nicotine. In addition to nicotine, tobacco contains over 23 known carcinogens and more than 4,000 chemicals.¹⁻³

The practice of tobacco use is usually initiated in adolescent age to get short time pleasure and to mimic as elder and peers group. This habit in long run is very hazardous and very detrimental for health and affects various organs and systems of the body which leads to

chronic morbidities and premature birth. Smoking form of tobacco affects principally respiratory system but other system may also involve. Smoking form of tobacco causes cough, shortness of breath, respiratory illness, and chronic obstructive lung diseases. It can reduce physical fitness and definitive risk factor for lung cancer, bladder cancer, respirator and cardiovascular morbidity and mortality. Whereas chewing of tobacco mainly affects buccal mucosa and tongue and risk factor for cancer of mouth, cancer of Pharynx, cancer of esophagus, resending Gums, Leucoplakia (precancerous condition).⁴⁻⁶ In India, adolescents comprise about 25% of the total population, a proportion that is expected to grow over the

years to come due to a high fertility rate. Adolescence is the period of physical psychological and social maturation from childhood to adulthood. The term “adolescent” refers to individuals between the ages of 10-19 years. 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.⁷

According to recent estimates, nearly 6 million people die due to tobacco use every year and this figure is estimated to increase up to 10 million deaths, per year by 2020, with 7 million of these deaths to occur in China and India.^{8,9}

Hence; under the light of above mentioned data, the present study was planned for assessing the prevalence of tobacco products abuse among school going adolescents in the field practice area of Mahatma Gandhi Medical College and Hospital, Jaipur.

MATERIALS & METHODS

It was a cross-sectional study to be carried out in field practice area of Department of Community Medicine of Mahatma Gandhi Medical College, Jaipur. There were 88 schools (Govt. and Private) in the field practice area of Mahatma Gandhi Medical College and Hospital (RHTC Vatika and UHTC Pratap Nagar). Students of class VI-XII were taken as study population. Taking prevalence rate of tobacco abuse as 17.5% and 2% of absolute error, the sample size came out to be 1444 (approx 1450).

Due permission was taken from the Institutional Ethical Committee of Mahatma Gandhi Medical College & Hospital, Jaipur before conducting the study. Due permission was taken from the school authorities before conducting the study. Due consent was taken from the students before conducting the study. Total sample size (1450) was selected equally from the field practice area of Mahatma Gandhi Medical College and Hospital i.e., 725 students were selected from the schools (Government and Private) of rural area (RHTC Vatika) and 725 students were selected from the schools (government and private) of urban area (UHTC Pratap Nagar, Sanganer). Out of 42 schools in RHTC Vatika area, 4 Schools were selected by simple random selection, out of which 2 were government and 2 were private schools. Similarly out of 46 schools in UHTC Pratap Nagar, Sanganer area, 4 schools were selected by simple random selection, out of which 2 were government and 2 were private schools. Out of 725 students to be selected from rural area i.e., RHTC Vatika 313 students were selected from government schools and 312 students were selected from private schools. Similarly, Out of 725 students to be selected from urban area i.e., UHTC Pratap Nagar 312 students were selected from government schools and 313 students were selected from private schools. Out of total samples from government and private schools of both rural and urban

areas 156 students were selected from each school. There were 7 classes in each school for, so there were 23 students selected from each class of the concerned school. List of schools was procured from DEO Jaipur, of government and private schools in the field practice area of Mahatma Gandhi Medical College and Hospital, Jaipur and schools were selected by simple random selection.

Analysis and Report Writing

A predesigned and pre tested questionnaire was used to collect following information. To find out relation between the tobacco use initiation and various socio-demographic, economic, religious, family and other influencing behavior related factors of Epidemiological importance. The data was entered in MS office excel worksheet and appropriate statistical tests was used to find significant association.

RESULTS

In this study 49.3% students were studying in 11th standard. It was observed that the prevalence of “ever tobacco user” was 20.62% and “current tobacco user” was 17.05% and both were higher among boys. The mean age of initiation was 10.66 years. Nearly half of the tobacco users were using tobacco in nonsmoker form.

Chewing of tobacco was the exclusive form of tobacco use among the girls who were tobacco users.

Near one third of students had one or more parents who use tobacco and it was significantly associated with tobacco use among students. Close friend’s tobacco use was also an influencing factor in promoting tobacco use. Among ever tobacco user 77.67% student’s friends use tobacco in any form.

One third of tobacco users purchased tobacco from stores/shops which points to the easy and relatively unrestricted access at vending outlets. These were not refused to purchase tobacco products in spite of their age. This shows that, strict implementation of Section 6 of COTPA is needed.

Perceived images of a tobacco user among students was alarming and showed that awareness about tobacco and its harmful effects needs to be addressed in schools and at home. Pro-smoking advertisements in mass media were rampant which needs strict banning of surrogate advertisements according to Section 5 of COTPA. Discussion about tobacco and its harmful effects at school was very poor and urgent is action needed to include it in the school curriculum. Awareness about the tobacco legislation (Section 6 of COTPA) among students was poor and lack of awareness about the same was significantly associated with promoting tobacco use among the students.

The main factors which were influencing tobacco use among the students was peer pressure, experimentation for fun, as a style quotient, influenced by favourite actors/actresses and TV shows or movies and stress.

Table 1: Distribution of students according to tobacco use in life time (Prevalence of ever use of tobacco gender wise)

Tobacco use in life time in any form	Gender		
	Boys	Girls	Total
Yes	219 (23.4%)	79 (15.3%)	298 (20.49%)
No	714 (76.6%)	438 (84.7%)	1152 (79.51%)

Table 2: Distribution of Students consuming/ Not Consuming Tobacco according to class in which they are studying

Tobacco use in life time in any form	Class in which they are studying							Total
	6 th	7 th	8 th	9 th	10 th	11 th	12 th	
Yes	2 (3.57%)	0 (0%)	9 (12%)	42 (32.0%)	37 (18.5%)	167 (23.4%)	41 (19.5%)	298 (20.55%)
No	54 (96.43%)	63 (100%)	66 (88%)	89 (68.0%)	163 (81.5%)	548 (76.6%)	169 (80.5%)	1152 (79.45%)
Total	56 (100%)	63 (100%)	75 (100%)	131 (100%)	200 (100%)	715 (100%)	210 (100%)	1450 (100%)

Table 3: Distribution of study population on the basis of knowledge about Tobacco Products Legislations

	Yes	No	Total
Do you know that the uses of tobacco products in public places are prohibited?	1088 (75.05%)	362 (24.95%)	1450 (100%)
Do you think that tobacco companies influencing adolescent through advertisements?	954 (65.8%)	496 (34.2%)	1450 (100%)
Do you know that selling of tobacco products below 18 year is prohibited?	1320 (91.0%)	130 (9.0%)	1450 (100%)
Have you seen shops of tobacco products near your school?	735 (50.7%)	715 (49.3%)	1450 (100%)
Do you know that selling of tobacco products within a radius of 100 yard of school is prohibited?	867 (59.8%)	583 (40.2%)	1450 (100%)
Have you seen cancer sign on tobacco packs/pouch?	1167 (80.45%)	283 (19.55%)	1450 (100%)
Have you seen health warning on tobacco packs/pouch	1110 (76.6%)	340 (23.4%)	1450 (100%)
Do you know about COTPA?	238 (16.4%)	1212 (83.6%)	1450 (100%)

Table 4: Distribution of students according to awareness regarding harmful effects of Tobacco

	Number (n=1450)		
	Male (%)	Female (%)	Total (%)
Smoke tobacco			
• Lung cancer	581 (59.98%)	388 (40.02%)	969 (66.85%)
• Respiratory diseases	44 (59.41%)	30 (40.59%)	74(5.05%)
• Throat cancer	117 (61.11%)	75 (38.89%)	192 (13.25%)
• No knowledge	152 (70.68%)	63 (29.32%)	215(14.85%)
Smokeless tobacco			
• Mouthcancer	696 (64.55%)	382 (35.45%)	1078 (74.35)
• Leukoplakia	42 (53.21%)	37 (46.79%)	79 (5.45%)
• Gum diseases	54 (63.24%)	31 (36.76%)	85 (5.85%)
• No-knowledge	79 (35.19%)	129 (64.81%)	208 (14.35%)

DISCUSSION

Out of total 88 secondary and senior secondary schools of Jaipur City, 8 schools were selected for the study. A total of 1450 student participated in this study.

Majority of the students were from 11th standard (49.3%) and minimum were from 6th standard (3.86%). In a similar study by Devanand Gupta et al (2014), the students who were studying in 10th, 11th and 12th standard were 28.3%, 43.7% and 28.0% respectively.¹⁰

33.84% of the studied students were seventeen year old, followed by 28.25% of 16 year. 2.4% and 1.73% were of 10 years and 19 years old respectively. In Sreedhar et al (2011) study, the maximum number (31.14%) of study population were of age 14.¹¹

The overall prevalence of tobacco use, in so far completed life time among adolescent school students was 23.4% in boys and 15.3% in girls. The prevalence among boys and girls who have not so far ever used or even tested tobacco products was 76.6% and 84.7% respectively. According to WHO (GYTS survey March 2013)¹², the National prevalence of tobacco ever used in this age group was 17.5%. In study by Devanand Gupta (2014) et al.,¹⁰ overall prevalence of tobacco ever users was 39.7% (male 29.4%, girls 10.3%), in study by Anindya Mukharjee¹³ (2012) et al., the prevalence of ever use of tobacco products was 23%. The overall prevalence of tobacco use in life time among high school students was 6.2% reported by Tilak S.A.¹⁴ (2014) and 4.9% reported by Gururaj et al., (2007)¹⁵ R Narain (2011) et al.,¹⁶ reported prevalence of 8.8% among ever users.

In this study, out of total 1450 students ,the number of students who studied in class 6th, 7th, 8th, 9th, 10th, 11th, 12th were 56(3.86%), 63(4.34%), 75(5.17%), 131(9.03%), 200(13.80%), 715(49.30%), 210 (14.51%) respectively. The number of students who were ever tobacco products users in the class standard, 6th, 7th, 8th, 9th, 10th, 11th, 12th, were– 2(3.57%), 0(0%), 9(12%), 42(32%), 37(18.5%), 167(23.4%), 41(19.5%), respectively. In this study, out of total 298 tobacco ever users, maximum number 125(42.1%) of students initiated using tobacco products at age of 10-11 years. (26.27%) of the study population initiated using tobacco products in age group of <10 years. (19.3%) students initiated tobacco product use above age of 14 years and only 12.4% (37/298) students initiated in age group of 12-13 years. Among Indian studies, the mean age of tobacco use initiation has been found to vary from 8- 15 year. Bhojani (2009) et al¹⁷ and Reddy (2005) et al.,¹⁸ reported that the majority of tobacco users worldwide first tried tobacco prior to age of 18.

Out of the 298 ever user of tobacco, 83 (27.74%) started with smoking form of tobacco that is cigarette and bidi while, 159 (53.53%) started with smokeless form of tobacco and 56 (18.73%) started with both type of tobacco. 53.53% (159/298) of the study population ever used tobacco products in smokeless form whereas 27.74% (83/298) of students ever used tobacco in form of cigarette and bidi. 18.73% (56/298) of students ever used both form of tobacco. In study conducted by Tilak S. A. (2014)¹⁴ from Bangalore, prevalence of smoking form of

tobacco ever use was 54.5% (122/224), prevalence of smokeless tobacco was 42.9% (96/224) and prevalence of both form of tobacco ever use was 2.6% (9/224).

In our study, cigarette/ bidi was main form of tobacco and 33(28.5%) students from urban area used this form of tobacco, followed by khaini and gutkha 24.4% and 26.1% each. 24 (21%) used both form of students. Tobacco use habit in students from rural background was little bit different in comparison to urban population. In rural background students gutkha was the main form of tobacco used by 64 (35.2%) students. Other form of tobacco used in students from rural areas was khaini and cigarette, seen in 28.9% and 26.4% students respectively. Low prize of gutkha and khaini and parental use of this type of tobacco products use might attributed to this difference in rural and urban areas students of study population. The difference in the use of different type of tobacco products amongst rural and urban students groups was significant at .01 levels.

CONCLUSION

From the above results, the authors concluded that these strategies will help in reducing the prevalence of tobacco use among the adolescents, which in turn will help in reducing the morbidity and mortality associated with the tobacco use. So, targeting the adolescents for tobacco control measures will ensure long term benefits to the country in terms of health and economy.

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