

## Research Article

DOI: <http://dx.doi.org/10.18203/2349-3291.ijcp20160076>

# A cross sectional study to assess the prevalence and awareness of tobacco consumption among school students in a cosmopolitan city of India

Shachi Jain Taran<sup>1</sup>, Rakesh Taran<sup>2\*</sup>, Satish Saroshe<sup>3</sup>, Virendra Bhandari<sup>4</sup>

<sup>1</sup>Department of Pediatrics, Sri Aurobindo Medical College and PG Institute, Indore, Madhya Pradesh, India

<sup>2</sup>Department of Medical Oncology, Sri Aurobindo Medical College and PG Institute, Madhya Pradesh, India

<sup>3</sup>Department of Community Medicine, Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India

<sup>4</sup>Department of Radiation oncology, Sri Aurobindo Medical College and PG Institute, Indore, Madhya Pradesh, India

**Received:** 01 November 2015

**Revised:** 19 December 2015

**Accepted:** 09 January 2016

**\*Correspondence:**

Dr. Rakesh Taran,

E-mail: [rakeshtaran@yahoo.com](mailto:rakeshtaran@yahoo.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Tobacco consumption is one of the leading preventable causes of cancer in the world. To reduce its prevalence awareness should be increased, especially among school going children as they are the important part of society and future of country. Present study was contemplated to assess the awareness of School Students from 9th to 12th standard regarding various aspects of tobacco consumption and its role in cancer.

**Methods:** Cross sectional study among 778 school children in ten schools, randomly selected from Indore district of Madhya Pradesh, studying in 9<sup>th</sup> to 12<sup>th</sup> Standard using pre designed pretested semi structured questionnaire.

**Results:** More than two third of the student know about tobacco and its uses. However only 41 (6.6%) had consumed any form of tobacco in their life time. Chewable form of tobacco use was more common. Peer pressure was the leading cause of initiating tobacco. 17 out 41 had some form of ill effect of tobacco. Despite of awareness that tobacco can lead to cancer, 70.7% of student had never tried to quit tobacco consumption.

**Conclusions:** Peer pressure should be minimised by good family environment and moral values to prevent tobacco uses in adolescents.

**Keywords:** Tobacco consumption, Awareness, School health, National tobacco programme

## INTRODUCTION

Tobacco consumption is one of the leading preventable causes of morbidity and mortality in the world. Tobacco is cause of about 5.4 million deaths per year & this figure is progressively increasing.<sup>1,2</sup> Tobacco was introduced in India by the Portuguese some 400-500 year ago since then its use is continued to rise in India. Out of 1.1 billion smoker worldwide, 182 million (16.6%) of them live in

India.<sup>3</sup> 275 million adults consume different tobacco products.<sup>2</sup>

Tobacco use usually starts in adolescent age group and continues in adulthood. According to WHO adolescents are most vulnerable to recklessness and risk taking behavior which can lead to substance abuse, road accidents, unsafe sex and juvenile's delinquency. Adolescents, who are still going through critical periods of growth and development, are particularly vulnerable to

Nicotine and its harmful effects; as it is a highly addictive drug. Symptoms of serious addiction can appear within weeks or even days after smoking begins which can lead to years of tobacco use and dependence.<sup>4</sup> Before children leave school or reach adulthood, smoking and other tobacco use causes numerous immediate, sometimes irreversible, health effects and risks that can seriously damage their health.<sup>5</sup>

To reduce its prevalence awareness should be increased, especially among school going children because this is most susceptible and easily modifiable age group. They are the important part of society and future of country. Schools play a powerful role in reducing the serious problem of smoking and other tobacco use by children. As children spend their most of time around one third in school only, or about 135 hours per month; and much of the peer pressure children feel whether or not to use tobacco occurs in school. 90 percent of adult smokers begin smoking at or before age 18 when they are in school.<sup>6</sup> Hence this study was conducted to concentrate on this particular population that is School Children of 9<sup>th</sup> to 12<sup>th</sup> standard with the primary objective to evaluate the prevalence and initiating cause of tobacco use and to see awareness about the risk associated with it.

## METHODS

This cross sectional study was conducted on school children of 9<sup>th</sup> to 12<sup>th</sup> standard in ten randomly selected schools from Indore district, India. 800 school children were selected randomly from these schools. Pre designed, semi structured questionnaire was asked to be filled by each student after explaining the questionnaire. Out of 800, 778 students filled the whole performa therefore selected for the further study.

Prior permission was obtained from school authorities. Students were informed about the purpose of the study and assurance was given about the confidentiality. Informed Consent was obtained from the students.

## RESULTS

A total of 778 children of 9<sup>th</sup> to 12<sup>th</sup> standard were studied from ten different schools. The age group was 14-18 year. Out of 778 students 623 (80.1%) had knowledge about tobacco consumption whereas 19.9% students had to no idea about tobacco products and their uses (Table 1).

Among various tobacco products (smoke and smokeless) chewable products were more popular. The percentage of students who know about different form of tobacco is as follows; Gutka (67.4%); Khaini (66.3%); Cigarette (54.9%); Bidi (52.3%) followed by Hukkas (44.5%); Cigar (41.4%) and others (18.1%). About 302 (48.5%) children were aware of 4 or more products (Table 2).

Out of 623 students who know about tobacco products, 89.6% students were also aware of health hazards of tobacco.

The knowledge about different types of illness caused by tobacco was as follows ; (1) Mouth cancer 86.2%; (2) Precancerous condition 84.8%; (3) Lung cancer 55.9%; (4) Cardio vascular effects 23.1%; (5) Tertogenicity 19.4%.

79.5% of students also know that smoking predispose to those illness which could be fatal and smoking is also a cause of premature aging and death.

Most common source of information about tobacco hazards was Television (73.2%) followed by Newspaper (49.9%), Social media (47.5%), Internet (44.3%) and acquaintances (21.8%).

**Table 1: Spectrum of awareness about difference aspect of tobacco among school children.**

Question	Answer		
	Yes	No	Total
Knowledge about any form of tobacco	623 (80.1%)	155 (19.9%)	778
Tobacco is injurious to health	558 (89.6%)	65 (10.4%)	623
Tobacco use can lead to death	528 (84.8%)	95 (15.2%)	623
It is illegal to smoke at public places	535 (85.9%)	88 (14.1%)	623
National program on anti-tobacco	313 (50.2%)	310 (49.8%)	623
Warning label on tobacco products	464 (74.5%)	159 (25.5%)	623
Passive Smoking	58 (9.3%)	565 (90.7%)	623

**Table 2: Awareness of various tobacco products.**

Tobacco products	Number of students	Percentage (%)
Gutka	420	67.4%
Khaini/Tobacco	413	66.3%
Cigarette	342	54.5%
Bidi	326	52.3%
Hookah	227	44.5%
Cigar/Piper	258	41.4%
Any other	113	18 %

To our surprise 10.3% students think there is some advantage of taking tobacco like better brain functioning.

74.5% students also know that there is warning label on all tobacco products in India mentioning that it is injurious to health. 85.9% students are also aware that in our country smoking in public places is prohibited. Only 50.2% of students know that our government is running a national program on cessation of tobacco consumption (Table 1). 297 (47.7%) students are interested to contribute for tobacco free society.

Out of 623 students only 58 (9.3%) students had knowledge about passive / second hand smoking and 55 of them were exposed to passive smoking. Among these 55 student most common place of exposure to passive smoking was public places (67.2%), followed by friend circle (32.7%) and family 17 (30.9%).

In our study out of 778 students only 41 were using tobacco products i.e. only 6.6% students. Among these 41 students some were using more than one form of tobacco. The use of different form in present study was as follows- Gutka 34.1 (14/41), Khaini 36.6% (15/41), Cigarettes 46.3 % (19/41), Bidi 4.8% (2/41) and Cigar being least common 2.4%(1/41) (Table 3). In our study, chewable tobacco product users outnumbered smokers. Some students were using both smoke and smokeless form of tobacco. Among all tobacco users 26 i.e. 63.4% were habitual (taking product daily) and only 15 i.e. 36.5% were occasional users. 17 out 41 (41.5%) students had some ill effect of tobacco use. Most common being mouth ulcer 31.7%, followed by teeth staining 26.8% , lip discoloration 14.6% and less common ill effects were hoarseness of voice 7.3%, difficulty in mouth opening 2.4% and other 9.8% (Table 4). Most of the students 29 (70.7%) spend less than 100 rupees per day in tobacco consumption. Source was mostly pocket money 26 (63.4% ) which student got from parents, 12.2% self-earned and 9.8% student got this from friends; stealing money was not major source as only 7.3% student had stolen money (Table 5). The most vulnerable age of indulging in tobacco products was 11 and 12 standard 46.3%, followed by 9 and 10 standard students 41.4%. In our study 4.9% started tobacco consumption less than 6th standards. Among the causes for initiating tobacco products frequency wise order 41.4% friends, 24.3% curiosity and 14.6% saw family members, other less common reasons being status symbol 7.3%, time pass/ enjoyment 7.3% (Table 6). 34.1% students consume product sneaking from family, 10% from bunking classes, 4.8% in cinema hall, 36.6% in betel shop and 14.6% anywhere in public place. All the students who consume tobacco feel dreamy state after taking tobacco, 19.5% students have mood changes and 14.6% had lack of sleep, 4.9% had impaired concentration. To our surprise 70.7% students never thought of quitting their habit. Only 19.5% students tried to quit but failed. The most common reason of not trying to quit was lack of will power (12/29) in spite of the fact that 41.4% (17/41) student know that will power is the most effective way of quitting (Table 7).

**Table 3: Frequency of use of different tobacco product among students.**

Product	Number	Percentage
Gutka	14/41	34.1%
Khaini/Tobacco	15/41	36.6%
Cigarette	19/41	46.3%
Bidi	2/41	4.8%
Hookah	0/41	0%
Cigar/Piper	1/41	2.4%

**Table 4: Ill effect of tobacco among student.**

	Number	Percentage
<b>Clinical</b>		
Mouth ulcer	13	31.7%
Teeth staining	11	26.8%
Hoarseness of voice	3	7.3%
Difficulty in mouth opening	11	26.8%
Foul smell	6	14.6%
Other	4	8%
<b>Behavioral</b>		
Lack of sleep	6	14.6%
Dreamy state	41	100%
Mood change	8	19.5%
Nausea	4	9.8%
Vomiting	4	9.8%
Impaired concentration	2	4.9%
Other	5	12.2%

**Table 5: Source of money.**

	Number	Percentage
Pocket money	26	63.4%
Self-earned	5	12.2%
Borrowed from friends	4	9.8%
Stolen	3	7.3%

**Table 6: Reason for starting tobacco consumption.**

	Number	Percentage
Friends influence /peer pressure	17	41.4%
curiosity	10	24.3%
Status quotient	3	7.3%
Time pass/Enjoyment	3	7.3%
Easy availability	3	7.3%
Family member	6	14.6%

**Table 7: Reason for not quitting tobacco.**

	Number	Percentage
Craving	8/29	9.5%
Lack of will power	12/29	41.3%
Mood elevator	9/29	21.9%

## DISCUSSION

Adolescents are increasingly exposed to changing lifestyles that have very negative impact on health. Neither parents nor the community have any clue how to deal with such situations.<sup>7</sup> Eighty per cent of the students know about the tobacco consumption and this is mainly because of the ease availability of tobacco products and the lax enforcement of laws preventing its consumption. Other studies from India also reported the high prevalence of awareness of tobacco among children.<sup>8-11</sup>

As here in our study it was found that 6.6% consume some form of tobacco. A community-based research study by Dongree et al revealed that about 68.3% boys and 12.4% girls had consumed any tobacco products in last 30 days, among the main forms of tobacco 79.2% consumed kharra and 46.4% consumed gutka.<sup>7</sup> Singh et al showed that about 9.8% of the study children had at least once experimented with any form of tobacco in their lifetime.<sup>12</sup> For children, by far the most common addiction is not to cigarettes but to chewing tobacco. The Global Tobacco Youth Study reported that smoking is the predominant form of tobacco use among adolescent in developed countries while smoking and smokeless use of tobacco is equally prevalent in youth in developing country. Our results were similar to above mentioned studies.

“Gutka,” a mixture of betel nuts and tobacco that comes in attractively colored sachets, is available in street corners for just two rupees. In the rural settings, where parents and neighbours asking young children to purchase tobacco products from nearby shop and use tobacco as home remedy for certain health problems brings its own stamp of authenticity regarding safety of these products and weakens the seriousness of side-effects of tobacco products among children.<sup>7</sup> Curtailing easy access of tobacco to children is a crucial step in prevention of tobacco use.

The most common source of expenses for tobacco use was pocket money in our study which is similar to study done by Shenoy et al.<sup>13</sup>

The non-users were aware that tobacco causes various side-effects like cancer, tuberculosis, poor oral health and development of addiction. The major sources of information for non-users were school teachers and community based groups. Knowledge regarding health hazards of tobacco consumption is 83.8% in present study which is similar to other studies.<sup>14</sup> 89.7% students not found any advantage in taking tobacco.

Although most of students know the statuary health warnings on a cigarette packet or pouch yet they ignore that warning and consume tobacco because of peer pressure. Peer pressure was the most common reason for initiating tobacco use in the current study. Studies have

demonstrated that smoking is an acquired, stylized social behaviour. Children aren't born knowing how to smoke. But when a friend adopts smoking, it becomes a powerful influence to smoke.<sup>9</sup> It has been shown that never smokers whose peers smoke are about twice as likely to initiate smoking over the next year or two.<sup>9</sup>

Parents can play a role in steering their children away from peers who smoke. In present study 5.1% student's family members know about their tobacco intake. It has been shown that parents can decrease the chances that their children will smoke through communication of non-smoking expectations consistently over time.<sup>15</sup>

85.9% students knew that it is illegal to smoke in public places; like public transport, healthcare facilities, educational institutions and government setups and 50.2% were aware of the National Health Programme on tobacco implemented by the Government of India. 9.1% know about Passive/Second hand smoking and 8.8% have been exposed to passive smoking in current study which is really harmful and should be prevented.<sup>16,17</sup> The efforts being put into quit tobacco consumption by someone or by will power is quite less as peer pressure seems to hinder in quitting smoking in adolescent.

Our study does provide an insight into the pattern of tobacco use among the school children of Indore. According to this study tobacco use is still an important problem in school going adolescent. Our study suggests that peer pressure (friends acting as role model) is the most common reason for students to initiate tobacco use in this age group. The study also enforces that only awareness about health hazards cannot lead to cessation of tobacco use but also other factors contribute like role models, fashion/advertisings, school/family environment, level of stress, moral values and government laws.

## CONCLUSION

Strict action at multiple levels and facets together can lead to tobacco free society. Health awareness campaigns, stress relieving sessions and counselling should be organized for adolescents at school level, village level and community level at frequent interval. School teaches moral values and is the best platform for learning. It is a place where child develops all aspects of his personality and habits. So this place can be best utilized for adapting good habits. We recommend all government programs and laws should target adolescent age group also, so that this bad habit can be easily nibbed in budding stage.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. World Health Organisation. Tobacco. Assessed online from 2015.
2. Kaur J, Jain DC. Tobacco Control Policies in India: Implementation and Challenges. *Indian J Public Health.* 2011;55:220-7.
3. Mahendrakumar BJ , Soumya M , Jagadish BD , Praveen Kumar M , Varun SC. A Study on Tobacco Cessation by Clinical Pharmacist. *Indian J Pharmacy Practice.* 2013;6:36-40.
4. DiFranza JR, Rigotti NA, McNeill AD, Ockene JK, Savageau JA, St Cyr D, et al. Initial Symptoms of Nicotine Dependence in Adolescents. *Tob Control.* 2000;9(3):313-9.
5. Chadd RK, Sengupta SN. Tobacco use by Indian adolescents. *Tob Induc Dis.* 2003;1(1):8.
6. U.S. Department of Health and Human Services. Preventing Tobacco Use among Youth and Young Adults: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.
7. Dongre AR, Deshmukh PR, Murali N, Garg BS. Tobacco consumption among adolescents in rural Wardha: Where and how tobacco control should focus its attention? *Indian Journal of Cancer.* 2008;45(3):100-6.
8. Sinha DN, Roychowdhury S. Tobacco Control Practices in 25 Schools Of West Bengal. *Indian J Public Health.* 2004;48(3):128-31.
9. Malhotra C, Malhotra R, Singh MM, Garg S, Ingle GK. A Study of tobacco use among street children of Delhi. *Indian J Community Med.* 2007;32(1):58-9.
10. Tsiring D, Pal R, Dasgupta A. Tobacco Use Among High School Students of West Bengal, India. *Indian J Community Med.* 2008;33(3):207-8.
11. Thekdi KP, Kartha GP, Purani SK, Nagar SS. A study on the prevalence of use of tobacco amongst school going children (11 to 15 years age group) of Surendranagar. *Healthline.* 2013;4(1):43-5.
12. Singh V, Pal HR, Mehta M, Kapil U. Tobacco consumption and awareness of their health hazards amongst lower income group school children in national capital territory of Delhi. *Indian J Pediatr.* 2007;44:293-5.
13. Shenoy RP, Shenai PK, Panchmal GS, Kotian SM. Tobacco Use Among Rural Schoolchildren of 13-15 Years Age Group: A Cross-Sectional Study. *Indian J Community Med.* 2010;35(3):433-5.
14. Singh V, Gupta R. Prevalence of tobacco use and awareness of risks among school children in Jaipur. *J Assoc Physicians India.* 2006;54:609-12.
15. Sargent JD, DiFranza JR. Tobacco Control for clinicians who treat adolescents. *CA Cancer J Clin.* 2003;53(2):102-23.
16. Patra S, Sharma S, Behera D. Passive Smoking, Indoor Air Pollution and Childhood Tuberculosis: A Case Control Study. *Indian J Tuberc.* 2012;59:151-5.
17. Callinan JE, Clarke A, Doherty K, Kelleher C. Legislative smoking bans for reducing second hand smoke exposure, smoking prevalence and tobacco consumption. *Cochrane Database Syst Rev.* 2010;14:(4):1-3.

**Cite this article as:** Taran SJ, Taran R, Soroshe S, Bhandari V. A cross sectional study to assess the prevalence and awareness of tobacco consumption among school students in a cosmopolitan city of India. *Int J Contemp Pediatr* 2016;3:86-90.