

# Tobacco Use and Awareness Regarding Tobacco Legislation and Hazards among Adolescents of Bhopal City

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## ABSTRACT

**Context:** The rationale of this study was to assess the prevalence of tobacco use and awareness regarding tobacco legislation and hazards among adolescents of Bhopal city. **Settings and design:** Cross sectional survey carried out in the schools of Bhopal city. **Material and Methods:** The study was of 1 month duration conducted during the month of July 2014. 400 students participated in the study, the sampling frame of which included all the children of age group 13-18 years of government schools in Bhopal using cross-sectional study design. From the school list of the rural and urban, 10 schools were selected using simple random sampling method. The collected data was entered in SPSS 21.0 and statistically analyzed using chi-square tests. **Results:** The prevalence of ever, recent and current users were 40.3%, 30% and 21.8%. Males were more aware regarding legislation against smoking in public places than females. ( $p=0.000$ ). Knowledge regarding selling tobacco products to minors was more in males than females ( $p=0.014$ ). Regarding the knowledge of hazards associated with tobacco use, it was found that 85% of the students knew about the relationship between oral cancer and tobacco, with the awareness being greater among higher age groups. (51% vs 34%). **Conclusion:** Prevalence of the ever user was found to be highest in the age group 16-18 years. These students are at a higher risk of developing oral diseases. Hence, there is a strong need to educate the masses specially school children on the hazards of tobacco and conduct tobacco cessation programmes for adolescent groups to control the tobacco epidemic.

**KEYWORDS:** Tobacco, Awareness, Tobacco Legislation

## INTRODUCTION

According to World Health Organization, adolescence is the stage in human growth and development that comes after childhood and before adulthood, between ages 10 to 19 years. This is the time when a negative health behavior such as tobacco smoking is most likely to entrap them. Studies have shown that tobacco addiction among the majority of adults initiated during their adolescence.<sup>1,2</sup> Tobacco use among adolescents now considered as a serious public health issue in developing countries like India<sup>3</sup> and its decrease in developed countries had led multinational tobacco companies to target young population of developing countries through various promotional activities campaigns and advertisements.

According to the World Health Organization, tobacco is the single greatest cause of preventable death globally which kills approximately 5.4 million people each year.<sup>4</sup> About 800,000 new cases of cancer are estimated to occur every year in India.<sup>5</sup> Oral cancer is currently being the most common form of cancer in India which accounts for a high morbidity and mortality among cancer patients.<sup>6</sup>

India is the second largest producer of tobacco and second leading seller in the world and also provides 185 million consumers of different forms of tobacco products.<sup>7</sup> The survey conducted in Madhya Pradesh among adults aged  $\geq 15$  years under GATS found that 39.5% adults using smokeless tobacco.<sup>8</sup>

Legislation is the heart of effective and successful tobacco control. It institutionalizes and makes necessary obligations for a country's commitment for tobacco control.<sup>9</sup> Awareness regarding laws on tobacco control among the adolescents is a primary requirement before the actual effect of such legislation. Moreover, existing knowledge levels of these individuals on serious consequences of long term tobacco use should also be determined. Numerous studies have been conducted in the past on the prevalence of tobacco use in Central India among adults, but the information on the tobacco use pattern among adolescents in this part of country is limited.

So this study was conducted to assess the degree of awareness of the prominent legislative measures against tobacco and knowledge regarding the tobacco-related diseases.

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## MATERIALS AND METHODS

The introduce investigation was conducted among the adolescents of Bhopal city. The study was conducted in the months of June-July 2014, and it was of 1 month duration.

This was a questionnaire based prospective cross-sectional survey. All the participants present on the day of examination were included. Subjects aged 13-18 years, with a psychologically sound mind and willing to participate in the study after explanation were included in the study. Participants were asked to provide their written informed consent & ethical approval was taken from the ethical committee of the People’s university. From the list, obtained from District education Department, of schools in the urban area, there were 50 government schools, out of which 10 schools were selected using simple random sampling method. 500 students participated in the study.100 students were excluded as they did not fill the complete questionnaire. The total participants were 400.

A self-administered questionnaire consisting of 13 closed-ended items were used for data collection. These questionnaires were translated in local language for better understanding and effective answering. The questionnaire consisted of different ways of tobacco usage, Knowledge and awareness of the hazards, family history of tobacco usage, awareness of law against smoking in public places, and awareness of the restrictions on sale of tobacco products near school vicinity. We tried to find out the number of “ever, recent and current” users of tobacco.

The survey questionnaire was pretested on a random sample of 30 school students to ensure practicability, validity and interpretation of responses. Cronbach’s alpha was used for assessing the reliability of questionnaire internal consistency coefficient which was in range of 0.81.

They were also assured that all information given by them would be strictly confidential.

The obtained data was coded and entered in Microsoft excel. Data were statistically analyzed by using Chi-square. SPSS version (21.0) was used for all the data analysis.

## RESULTS

Descriptive statistics of the Demographic details of the study participants has been presented in Table 1. Distribution revealed that among 400 participants, 163 (40.7%) and 237 (59.3 %) were in age group of 13-15 years and 16-18 years. 193 (48.2%) and 207 (51.8%) were boys and girls. Among the participants, 186 (46.5%) and 214(53.5%) were in high school and higher secondary in table 1

The percentages of ever, recent and current users were 34.3%, 29.3% and 23% in table-2.

Variables	GROUPS	Number
Age	13-15 years	163(40.7%)
	16-18 years	237 (59.3 %)
Gender	Male	193 (48.2%)
	Female	207 (51.8%)
Class	8 <sup>th</sup> -10 <sup>th</sup>	186(46.5%)
	11 <sup>th</sup> -12 <sup>th</sup>	214(53.5%)
<b>Total</b>		<b>400</b>

Table-1: Distribution of participants according to age, gender and class

Tobacco user	n [%]
Ever	137 [34.3%]
Recent	117 [29.3%]
Current	92 [23%]
Non User	54[13.4%]
<b>Total</b>	<b>400</b>

Table-1: Frequency distribution of tobacco user

79.8% participants were unaware of law of prohibiting the sale of tobacco products within a certain distance, but a significant association was found between age and awareness regarding the law preventing the sale of tobacco products within a certain distance. 70.0% participants were unaware of law prohibiting the selling of tobacco products to minors. But it is statistically significant with age in table 3.

47% of the respondents were aware about the prohibition on smoking in public places. The association between age and awareness on ‘smoking ban’ was statistically significant. An increase in awareness was observed with increase in age, with the awareness being maximum among those 18 years.

88 % participants had seen a tobacco warning on packets of cigarette. But it is not statistically significant with age in table 4.

With regard to tobacco-related diseases it was found that 30.5% of the participants were aware of the association between oral cancer and tobacco, whereas 36.5% reported that they were not aware of any diseases due to tobacco. Over one-sixth of the students (16.1%) agreed that tobacco might cause more than one form of cancer and also responsible for respiratory diseases, while the remaining 17.2 % also mentioned cardiovascular diseases as being tobacco-related in table 5.

Variables		13-15 years	16-18 years	TOTAL	p value
Awareness on legislation of prohibiting the sale of tobacco products within a certain distance.	Yes	34 (8.5%)	47(11.8 %)	81(20.3 %)	.007*
	No	129 (32.2%)	190 (47.5%)	319 (79.7%)	
		163 [40.7%]	237 [59.3%]	400 [100%]	
Awareness of selling tobacco products to minors	Yes	54 (13.5%)	66(16.5 %)	120 (30.0%)	.006*
	No	109 (27.2%)	171 (42.8%)	280 (70.0%)	
		163[40.7%]	237 [59.3%]	400[100 %]	

Table-3: Awareness of tobacco legislation among students by age

Variable		13-15yrs	16-18 yrs	TOTAL	p value
Awareness of tobacco act/law, smoking is banned on:	Private Place	16 (4%)	15(3.8%)	31(7.8%)	.006*
	Public Place	70 (17.5%)	116 (29%)	186 (46.5%)	
	Both	35 (8.7%)	73 (18.2%)	108 (26.9%)	
Not aware		42 (10.5%)	33(8.2%)	75 (18.8%)	
		163 (40.7%)	237 (59.3%)	400 (100%)	
Health warning on tobacco/ Cigarette pack	Yes	144 (36%)	208 (52%)	35 (88%)	.416
	No	19 (4.7%)	29 (7.3%)	48 (12%)	
		163 (40.7%)	237 (59.3%)	400 (100%)	

Table-4: Awareness of tobacco legislation among students by age

Tobacco Hazards	Age		Total	p-value
	13-15 yrs	16-18 yrs		
Oral Cancer	52 (13%)	70 (17.5%)	122(30.5%)	0.003*
	Unaware of any tobacco related disease		146(36.5%)	
Cancer & Respiratory diseases	18 (4.5%)	45 (11.3%)	63(15.8%)	
All of the above including heart diseases	35 [8.7%]	34 [8.5%]	69 [17.2%]	
Total	163 [40.7%]	237 [59.3%]	400 [100%]	

Table-5: Awareness of health hazards among students by age

## DISCUSSION

Tobacco utilization is a major overall open wellbeing issue. It is presently by a wide margin the biggest preventable reason for death on the planet. Dominant part of the study members found in up to 14-17 years emulated by 16 to 17 years.

In a study conducted by Jayakrishnan et.al<sup>10</sup>, 4.1% were current users of smokeless tobacco with current smokers being less than 1%.But in our study, 16.8% were current users of smokeless tobacco with current smokers 8.8%.The reason for such a striking contrast in the findings of these two studies indicates that smokeless tobacco is the most common form which is used in Madhya Pradesh.

A study conducted by Pranil Man Singh Pradhan et.al<sup>11</sup>, the prevalence of ever tobacco use was 19.7%.In our study, the percentage of ever user and recent user was 34.3% and 29.3%.

A study conducted by Heena pandaya<sup>12</sup>, 5.3% males and 21.9% females were unaware of tobacco related health hazards.78% males and 62.9% females were aware about oral cancer and the awareness about respiratory [ Males-13.2%,Females- 12.4%] and cardiovascular hazards [Males-3.5%, Females-2.8%] of tobacco was found to be less.

But in our study, only 4.7% males and 2.9% females were unaware of tobacco related health hazards. 82.9% males 87.0% females were aware about oral cancer and the awareness about respiratory [Males-34.7%,Females-37.2%] and cardiovascular hazards [Males-38.9%,Females-39.1%] was found to be more. Awareness on other health hazards like infertility [Males-6.7%, Females-4.3%] miscarriage[Males-18.1%,Females-23.7%] and mental disorder [Males-7.8%,Females-11.1%] was found to be less as compare to oral cancer and respiratory.

There is a law which prohibits the sale of tobacco products within 100 yards of any school premises but the implementation is lenient in most of the districts in India.

Bhuputra Panda et.al<sup>13</sup>conducted as study in 30 districts in the State with district-wise urban population, 36.6% of the respondents reported that they had ‘very often’ seen tobacco products being sold ‘to a minor’, while 31.2% had seen tobacco products being sold ‘by a minor’.24.8% had ‘very often’ seen tobacco products being sold within a radius of 100 yards of educational institutions. 84.3% respondents reported seeing the mandatory health warnings in English, while 58.3% reported seeing these health warnings in Hindi and 37.1% had seen such warnings in their local language. But in our study, only 20.2% participants were aware about the law of prohibiting the sale of tobacco products within a certain distance and 1.2% participants knew about the distance.

70.0% participants were unaware about the law prohibiting selling of tobacco products to minors and only 25% knew about the age. Lower age group is more aware than higher age group in our study .88 % participants had seen a tobacco warning on packets of cigarette.

A study conducted by Gururaj G, Girish N<sup>14</sup>conducted a study amongst the 13-15 year olds in schools of Karnataka.83% favored a ban on smoking in public places. 47%of the respondents were aware of the ban on smoking in public places.

## CONCLUSION

Participants had less knowledge about these laws so adolescents in the age group of 14-19 years are the most susceptible to initiate use of tobacco use in both rural and urban areas. An effective school level tobacco control policy would play a vital role in deterring tobacco experimentation among adolescents. Schools with tobacco control policies have reduced tobacco use as compared to those without such policy, both in rural and urban areas.

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