

Acquaintance to Anti-smoking related Laws amongst College Students of a North Indian Medical University

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Abstract

Background: In submission to the increasing burden of tobacco use, an Act named Cigarette and Other Tobacco Products Act 2003 (COTPA) has been made to regulate tobacco use. Despite various rules and regulations initiated by the government, tobacco is easily accessible to minors and students of educational institutions. The present study is an attempt to assess the prevalence and patterns of tobacco use among college-going students, their perceptions about tobacco use and the level of acquaintance with COTPA

Methods: A cross-sectional study in September 2014 was conducted among 237 students. A pre-designed, semi-structured, self-administered questionnaire was used to assess perceptions related to tobacco use and acquaintance with COTPA 2003.

Results: Ever or current use of tobacco was present among 3.8% students. Tobacco consumption was present among family members of 74(31.2%) study participants. Ban on smoking in public places and on tobacco advertisement was known to 92.82% and 49.8%, respectively. Smoking in their institution was noticed by 53.2% study participants.

Conclusions: COTPA, even after 13 years of implementation, has not been completely enforced. Strict compliance to rules is necessary by legal enforcement. The lack of awareness about the Act among medical students has to be looked upon seriously.

Keywords: Tobacco regulation, Smoking, Adolescence, Substance use

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Implications of the Study

The study intends to assess the pattern, perceptions of tobacco use and level of acquaintance with COTPA amongst medical students, who are perceived to have maximum knowledge related to substance abuse and hazards caused by them. They are also expected to have a sound knowledge related to various laws that are expected to have an impact on the overall health of the society and tobacco-related laws are some of the most important laws. As these students will deliver healthcare services in future, their awareness is of paramount importance. This can help us to determine the amount of efforts that the government needs to put in so as to have a more efficient work force.

Introduction

Tobacco is responsible for 6 million deaths per year globally. One-fifth of these deaths occur in India where more than 800,000 people die and 12 million people fall ill due to tobacco use each year. 1,2 Apart from 70% of all lung cancer deaths, tobacco is also responsible for huge fiscal losses.^{3,4} The burden of smoking is unacceptably high in almost all the age groups. Prevalence of smoking any tobacco product among persons aged more than or equal to 15 years was 36.1% and 6.8% among males and females, and it was as high as 18.2% and 8.3% respectively among adolescents aged 13–15 years. This statement raises concerns as tobacco use at such earlier ages could result in habituation for lifetime. There is also a steady increase in tobacco-associated problems like oral precancerous lesions, tuberculosis, and cancers of oro-pharyngeal region.⁶ In India, the prevalence of tobacco use among youth aged 15–24 years has reduced from 18.4% in GATS-1 (Global Adult Tobacco Survey) to 12.4% in GATS-2 (33% relative reduction), though tobacco use among youth still remains a challenge. Also, there has been an increase of one year in the mean age at initiation of tobacco use from 17.9 years in GATS-1 to 18.9 years in GATS-2.7

In submission to the increasing burden of the problem, The World Health Assembly in May 2003 adopted the Framework Convention on Tobacco Control (FCTC) and India was one of the first few countries that ratified the FCTC.8 Further, the Indian Parliament enacted the Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply, and Distribution known as "Cigarettes and Other Tobacco Products Act (COTPA)" on May 18, 2003.9 In 2004, specific COTPA provisions were enacted, namely, the ban of smoking in all public places, ban on advertisements of tobacco products, and prohibition of sale of tobacco products to minors (<18 years old) and within 100 yards of educational institutions. Further, Government of India launched a dedicated program in 2007-08 (during the Eleventh Five Year Plan), named as National Tobacco Control Program (NTCP) for implementation of COTPA.¹⁰ Specific pictorial warnings on tobacco packages were made compulsory in 2009.9 Despite all efforts, COTPA has not been fully implemented. Appropriate knowledge related to tobacco control legislations and COTPA is low in general population, especially among the adolescents as depicted in different studies.^{8,11}

Health practitioners can play a strong role is increasing the awareness regarding COTPA as they are actively involved in health promotion activities. Also, patients are more receptive to advice given by doctors while they are being treated for their medical conditions. So, ideally medical practitioners should refrain from smoking and have a sound knowledge regarding this Act. But there is a paucity of literature documenting this kind of assessment. Therefore, the present study was done with the main objectives of determining the pattern perceptions of tobacco use and level of acquaintance with COTPA amongst the medical students, as these students will deliver healthcare services in future and their awareness is of paramount importance.

Methodology

A cross-sectional study was conducted in January 2015 among the students of a premier medical university in Rohtak, Haryana, India. These students were a heterogeneous mix of students from all over the country and were enrolled in MBBS, BDS and pharmacy undergraduate courses under the university. The students who were in their first professional years of the above-mentioned courses only were included.

Considering the prevalence of tobacco use among youth aged 15–24 years as 10%, ⁷ acceptable margin of error 5%, design effect of 1.5, sample size obtained was 207 (stat calc., epi-Info version 7.1.4.0.). Complete enumeration was attempted to enroll all the students of first professional year of the above-said courses, who were present at the time of study. A single visit was made to classrooms of the students of all three courses for data collection. They were informed about different aspects of study verbally and were invited to take part in the study after that. Thus, we were able to recruit and obtain consent from 270 students. The students unavailable at the time of study were not approached again, to avoid data contamination. Thirty-three forms were incompletely filled and were excluded from the analysis and gave a final total of 237.

A pre-designed, semi-structured, self-administered questionnaire in English was used to gather information from participants to record their sociodemographic profile,

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history of tobacco and alcohol use by them and their family members, perceptions related to tobacco use and acquaintance with COTPA 2003. The students were ensured of data confidentiality as substance use is a sensitive issue. They were instructed not to mention their names as all the questionnaires were serially numbered to avoid the unveiling of the identity of the participant. The smokers and non-smokers in the study were defined as per GATS survey. Collected data were entered, cleaned and coded appropriately. Analysis was carried out using statistical package for social sciences (SPSS) for Windows version 17.0, released 2008 (SPSS Inc., Chicago, IL).

Results

A total of 237 students participated with a mean age of 18.4 years (17–22 years). 43%(102) were males and 65.1%(152) were from urban background (Table 1). Majority of the students had literate parents (Fathers: 95.8%; mothers: 89%). Mean family income per month was approximately 240,700. Less than half of the students (43.9%, 104) were completely satisfied by their current body image, 42.2%(100) were somewhat satisfied, 12.6%(30) were somewhat dissatisfied and 1.3%(n=3) were completely dissatisfied. Tobacco consumption was present among family members of one-thirds of students (31.2%, n=74). Smoking was most commonly reported from fathers (74.3%, n=55), followed by grandfathers (21.7%, n=16) and siblings (4%, n=3) of the students. The most commonly consumed form was cigarette apart from hookah, bidi and gutkha amongst their family members. Alcohol consumption was reported from family members of 13.1% (n=31) students. Most common consumers were father (87.1%, n=27) and 12.9%(n=4) had both their father and grandfather as consumers.

History of Tobacco and Alcohol Consumption

Majority of students, 228(96.2%), had never smoked or chewed tobacco. Ever or current use of tobacco was present only in 9(3.8%) students (ever user: 5 and current tobacco users: 4) with mean age of initiation 14 years (range: 12–17 years); in form of cigarettes (n=6), pan masala (n=2), cigarette and hookah both (n=1). Reason for tobacco use given by the majority (n=8) was for fun-sake and to relieve pressure by 1 user. None of them had ever borrowed

money to buy tobacco. Out of current tobacco users (n=4), 1 consumed it occasionally, 1 smoked it weekly and other 2 smoked on a daily basis. Out of tobacco non-consumers (n=228), 13(5.7%) had intentions to try it in future. There was no familial aggregation in tobacco use by students (Table 1).

Alcohol was ever/currently consumed by 11(4.6%) students with mean age of initiation 16.5 years (range=10–19 years). Out of the alcohol consumers, 3(27.3%) had consumed it just once, 6(54.5%) consumed occasionally (in parties, etc.) while 2(18.2%) were taking it on a daily basis. Main reasons for alcohol consumption were identified as fun, curiosity about alcohol use, by mistake and to release pressure. Among never alcohol consumers (n=226), 11(4.8%) intended to try alcohol in future. Association of gender with ever tobacco use and with ever alcohol use was significant (p value <0.05: Fischer's exact test). Association between place of residence and consumption of tobacco and alcohol was statistically not significant.

Bigger proportion of ever/current alcohol users wanted to continue use of alcohol in future as compared to never users (p value 0.02). A significant association was seen between body image and willingness to smoke or consume alcohol in future. Larger proportion of participants who were not satisfied with their body image (n= 5) intended to smoke or consume alcohol as they thought it will make them more "cool" as compared to those who were satisfied with their body image (Table 1).

Perceptions and Attitude towards Tobacco Use

Tobacco consumption was perceived as a public health problem in India by 98.73%(234) participants. About 7.6% girls and 3.8% boys perceived smokers as more attractive. When participants noticed people smoking around them, 40.5%(96) preferred to ignore, 3.8%(9) did not feel anything and 55.7%(132) felt like asking them to stop smoking. Approximately three-fourths of students, 173(73%), believed that professional counselling would have an impact on smokers to quit smoking, 32(13.50%) anticipated it to be ineffective and rest were neutral about it. Both tobacco and alcohol consumption were perceived equally harmful by 65.4%(155), while 27%(64) and 5.1%(12) perceived tobacco and alcohol more harmful, respectively.

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Table 1.Distribution of study participants according to socio-demographic profile and tobacco use

Socio-demographic variables	Substance use		
	Number of participants who consume Tobacco	Number of participants who consume Alcohol	
Gender			
Male (n=102)	8	9	
Female (n=135)	1	2	
Total (n=237)	9	11	
Mid p value	0.006	0.01	
Course			
MBBS (131)	4	6	
BDS(49)	2	3	
Pharmacy(57)	3	2	
Mid p value	0.660	0.838	
Age			
17-19(212)	8	10	
20-22(25)	1	1	
Mid p value	1.000	1.000	
Residence			
Rural (n=85)	3	3	
Urban (n=152)	6	8	
Total (n=237)	9	11	
Mid p value	1.00	0.75	
Family members consume tobacco			
Yes (n=74)	3	6	
No (n=163)	6	5	
Total (n=237)	9	11	
Mid p value	1.00	0.141	
Ever consumed alcohol	Intend to try alcohol in future		
	Yes	No	
Yes (n=11)	3	8	
No (n= 226)	11	215	
Total (n= 237)	14	223	
p value	0.02		
Satisfaction with body image	Intend to try smoking/alcohol in future		
	Yes	No	
Satisfied (n= 204)	9	195	
Dissatisfied (n= 33)	5	28	
Total (n= 237)	14	223	
p value	0.03		

Acquaintance with COTPA 2003

Out of 237 students, 62.9%(149) study participants had

ever heard of the term tobacco control legislations. Ban on smoking in public places and on tobacco advertisement was known to 92.8%(220) and 49.8%(118), respectively. Age

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limit for prohibition of smoking was known to 72.2%(171), while 2.5%(6) did not know and 25.3%(60) said there is

no age limit. Smoking in their institution was noticed by 126(53.2%) study participants (Table 2).

Table 2.Distribution of study participants according to their acquaintance with COTPA 2003 rules

Awareness	Yes	No	Don't know
Heard of tobacco control laws in India	62.9%(149)	37.1%(88)	0
Ban on smoking in public places	92.8%(220)	7.2%(17)	0
Age limit for prohibition of smoking	72.2%(171)	25.3%(60)	2.5%(6)
Ban on tobacco advertisement	49.8%(118)	48.1%(114)	2.1%(5)
Ban on selling tobacco products near educational institution	72.6%(172)	25.7%(61)	1.7%(4)
Noticed pictorial warning on tobacco products	11.4%(27)	88.6%(210)	0
Impact of pictorial warnings on users to quit	15.2%(36)	57%(135)	27.8%(66)
Impact of professional counseling on tobacco users to quit	73%(173)	13.5%(32)	13.5%(32)

Warning on tobacco products was never noticed by 27(11.4%) students. Out of those who had ever noticed warnings on tobacco products, 174(82.9%) students found them readable. Out of these 174 students, majority of them 107(61.5%) were able to rewrite it as "tobacco/ cigarette smoking is injurious to health" and 62(35.6%) wrote "tobacco causes cancer", while 5(2.9%) had no idea. Only 11(4.6%) participants had noticed pictures of cancers of different body organs on tobacco products. More than half of the students, 135(57%), said that warnings on tobacco products do not motivate users to quit, 66(27.8%) were neutral, whereas 36(15.2%) had a positive attitude. The main sources of information regarding tobacco consumption and related laws in India were accumulated from books, television, radio, internet, newspaper, banners, etc. No significant difference was found between MBBS, BDS and Pharmacy students regarding acquaintance with COTPA (p value >0.05). Also, no significant differences were found between age, sex, residence and ever consumption of tobacco and alcohol with acquaintance (p value >0.05). This could be due to very small number of ever tobacco and/or alcohol users in the present study.

Perceptions related to COTPA among Tobacco Users

Out of 9 students who were ever or current tobacco users, all of them (100%, 9) perceived tobacco consumption as a public health problem in India, while 88.9%(8) perceived it

as a public health problem in the world. When asked about what comes to their mind if they see someone smoking, 55.6%(5) preferred to ignore and move on while 22.2%(2) users felt nothing and 22.2%(2) felt like asking them to stop smoking. But majority users (77.8%, 7) agreed to the positive effect of professional counselling on users to quit. Tobacco was perceived more harmful by two-thirds of the ever tobacco users (66.7%, 6) and both alcohol and tobacco were considered equally harmful by 3(33.3%) students.

Acquaintance to COTPA was also analyzed separately among ever tobacco users. Out of 9 participants who were ever tobacco users, majority (88.9%, 8) had ever heard of term tobacco control laws in India were aware of ban on smoking in public places. All of them (100%, 9) were aware of the age limit for prohibition of smoking. Legal age for buying tobacco products was mentioned as 18 years by 7 users (77.8%), while 1(11.1%) mentioned it as 21 years and 1(11.1%) mentioned it as 25 years. Ban on tobacco advertisement was known to less than half of the users (44.4%, 4). Ban on selling tobacco products near educational institutions was known to more than half of the ever users (55.6%, 5). All of the ever tobacco users (100%, 9) had noticed pictorial warnings on tobacco products and majority of them (88.9%, 8) found them readable/understandable but only 44.4%(4) users agreed that these may have an impact on users to quit (Table 3).

Table 3.Distribution of ever/current tobacco users according to their acquaintance with COTPA 2003 rules (n=9)

Awareness	Yes	No
Heard of tobacco control laws in India	8 (88.9%)	1 (11.1%)
Ban on smoking in public places	8 (88.9%)	1 (11.1%)
Age limit for prohibition of smoking	9 (100%)	0 (0)
Ban on tobacco advertisement	4 (44.4%)	5 (55.6%)
Ban on selling tobacco products near educational institution	5 (55.6%)	4 (44.4%)
Noticed pictorial warning on tobacco products	9 (100)	0 (0)
Impact of pictorial warnings on users to quit	4 (44.4%)	5 (55.6%)
Impact of professional counselling on tobacco users to quit	7 (77.8)	2 (22.2%)

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Discussion

This was the first study of its kind conducted in a north Indian medical teaching institution among medical students. Substance use and its habituation at a very early age will significantly reduce their overall scholastic performance and life expectancy. Tobacco ever/current users were 3.8% of medical students in the present study. This prevalence was significantly lower than the prevalence found in other studies which ranged from 16% to 45%. This can be attributed to medical background of our study subjects and more knowledge about the consequences than the general population. More males were involved in smoking and this can be due to easy accessibility and lesser inhibition among males for obtaining tobacco products.

The mean age of initiation of tobacco in the present study was 14.1 year, similar to 14.7 year found in the study of Bhojani et al., ¹³ but it was lower to results depicted by Aggarwal et al. ¹⁴ This was much lower compared to GATS-1 and 2 in India. ^{7,17} Ideally, focus should be on parents and not on the children, who are unaware and exemplify the act of smoking in front of young vulnerable and curious minds. Such children whose parents smoke or consume tobacco should be identified in the school only and they should be subjected to behavioral change communication by adopting different non-punitive strategies to protect these children from the harmful effects of tobacco use in later life.

Use of tobacco for fun was noticed as the main reason for initiation of tobacco use (88.9%) in the present study, followed by pressure or stress (11.1%), in agreement with results depicted by Das et al.¹⁶ Adolescence is the period of biological and psychological changes, which can lead to anxiety and stress. Tendency to explore and experiment among them leads to adoption of health-risk behaviors. Lack of knowledge, experience, skills, access to healthcare and counselling contribute further to this problem.¹8 Some studies reported stress or peer pressure as the most common factor responsible. 19,20 This is a major challenge as most of the medical students live in hostels and peer pressure cannot be ignored. Shafig reported peer pressure, academic stress and curiosity to be the commonest reasons responsible for tobacco use by medical students.²¹ We should also think of ways which can decrease stress among medical students.

Majority of students (92.4%) were aware about harmful effects of tobacco use, similar to previous studies. ^{13,16} Awareness about tobacco-related laws in India was lower among our study participants (62.9%) as compared to another study. ¹⁶ Most of the participants noticed pictorial warnings and it made an impact on students. But, whether they are having effective impact on users to quit tobacco is not certain. The awareness level was higher among

tobacco ever users although a statistically significant difference could not be obtained as the absolute number of tobacco users was very less. Pictorial warnings are usually not seen on bidi packs or other forms of loose tobacco (for hukka, chilam, etc.) that is available at cheap price from local market and these are the more popular and culturally acceptable forms in Haryana. So, there is a need to reconsider the present focus from pictorial warnings on tobacco products to other more effective health promotion activities that should be developed and implemented to combat tobacco consumption.

Apart from small sample size, the other limitation of this study was that it involved only first-year medical students. The results cannot be generalized, but can be taken as an eye opener. It is recommended to introduce teaching on substance abuse and cessation early in the medical curriculum to substantiate the technical knowledge of the students regarding the hazards at the earliest. Also, there is need to upscale the on-going health promotional and awareness activities in educational institutions. Not only the health problems associated with tobacco use, but also the legislations related to it should be stressed upon in the teaching curriculum of medical students. They are the future healthcare providers, so their awareness is crucial to achieve global targets related to reduction in tobacco use.

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