

Original Research Article

Knowledge regarding hazards and legislation of tobacco consumption among undergraduate students in Rajkot & Morbi Districts, Gujarat, India, 2016

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ABSTRACT

Background: Tobacco which is most common legally available hazardous substance, most of the new users in India's is school children. For prevention and control of tobacco consumption, legislation lies at the very heart of any effective tobacco control programme. To assess knowledge regarding harmful effects and legislation of tobacco consumption among undergraduate students

Methods: A cross sectional study carried out among 2000 students in 20 colleges of different streams of Rajkot and Morbi districts during February-March 2016 using self-administered questionnaire. Proportion of male: female was kept 3:1.

Results: Knowledge regarding harmful effects of tobacco was present in 95.8% participants. 92.8% students believed that cancer is the harmful effect of tobacco consumption. 77.3% students had knowledge that tobacco consumption is the leading cause of death in India. Television was the commonest source of knowledge of harmful effect of tobacco (71.9%). Only 15.9% students had knowledge regarding the penalty for violation of rules of tobacco consumption prohibition.

Conclusion: Knowledge regarding harmful effects of tobacco consumption was present in majority of students but it had no association with tobacco consumption habit. Knowledge regarding legislation of tobacco consumption was poor among students.

Keywords: Knowledge, Legislation, Tobacco consumption

INTRODUCTION

Tobacco is the most common hazardous substance because it is legally available, heavily promoted and widely consumed.¹ Most of the new users in India's are school children and those who begin to use in their mid-teens are likely to get lung cancer by the time they are in their mid-thirties.²

The National Survey on Drug Use and Health estimates that each day, over 4,000 people under the age of 18

years tries their first cigarette.³ WHO estimates that annually 4.9 million deaths occurs due to tobacco consumption.⁴

In India, the deaths attributed to tobacco, are expected to rise from 1.4% of all deaths in 1990 to 13.3% by 2020.⁵ Cigarettes kill one in two smokers prematurely, half of these deaths occurring during middle age (mean: 35.69 years).⁶ For prevention and control of tobacco consumption, Legislation lies at the very heart of any effective tobacco control programme.⁶

In India, a comprehensive legislation has been enacted, namely The cigarettes and other tobacco products (prohibition of advertisement and regulation of trade and commerce, production, supply and distribution) act, 2003 (hereinafter referred to as the Indian act) for reducing the exposure of people to tobacco smoke, prohibition of advertisements, prohibition of sale to minors and regulating the contents of tobacco products.⁷ After reviewing situation, Government of India revised the law which was implemented from 2nd October, 2008, making additional provisions to improve the implementation of smoke free law.⁸

Very few studies have been done regarding awareness and attitude of undergraduate students and for effective implementation of legislation, knowledge of legislation is necessary. So, the present study was conducted among undergraduate students with the objectives to study awareness regarding tobacco and its harmful effect and knowledge regarding legislation of tobacco consumption.

METHODS

A cross-sectional study has been carried out by community medicine department, P. D. U. Government Medical College, Rajkot during February-March 2016 in 20 colleges of different streams in Rajkot and Morbi Districts, Gujarat. From website of Saurashtra University, Rajkot list of all colleges of Rajkot and Morbi districts was obtained. At total of 351 colleges were listed out. For ensuring equal coverage, in the next stage, all colleges were divided in two divisions namely private colleges and government colleges. In third stage private and government colleges were grouped in the various streams or courses. In the next stage one college from each stream was randomly selected from both the groups namely government and private and finally 10 Government and 10 private colleges of different streams were selected randomly. An attempt was made to select average 100 students from each college and overall sample size was kept 2000 students from all the 20 colleges. On the basis of more prevalence of tobacco consumption among males, it was attempted to keep proportion of male: female participants to 3:1.

Principals of all the colleges were informed well in advance regarding the study and verbal consent was obtained. The investigation team consisted of faculty, resident doctors and medical social workers (MSWs). All investigators of the survey team were trained about proper technique of carrying out the survey beforehand. Before starting the survey, students were well explained regarding the objective of the survey and how to fill the details in the proforma. Verbal consent from the students was taken for participating in the survey. Few students had not responded to some of the questions, so denominator differs in some of the variables. Self-administered questionnaire was prepared in English and translated to vernacular language (Gujarati) for the easy understanding of the students. Data entry and analysis

was done using Microsoft Office Excel 2013 and Epi-Info Version 7. Proportions and chi-square test were used for analysis. P value <0.05 was considered significant.

RESULTS

Table 1 shows socio-demographic profile of the study participants. 1419 (70.9%) students were of age group <20 years. Out of total participants, 73.8% were male participants. Proportion of students from rural and urban area was almost equal. Equal proportions of participants were from government and private colleges. Out of total 1941 students who had responded, 8% were consuming tobacco and remaining 92% were not consuming tobacco as shown in Table 1.

Table 1: Socio-demographic profile of the study participants.

Socio-demographic character	No. of students	%
Age Group (n=2000)		
<20 years	1419	70.9
>20 years	581	29.1
Sex (n=2000)		
Male	1477	73.8
Female	523	26.2
Geographical area (n=1885)		
Rural	947	50.2
Urban	938	49.8
Type of college (n=2000)		
Government	998	49.9
Private	1002	50.1

Out of 1871 participants who had responded that tobacco consumption is harmful, most common source of knowledge was Television (73.5%), followed by newspaper (55.2%) and school/college (51.5%). Other sources were cinema, family, internet, friends, relatives, magazine etc. Most common response from students regarding harmful effect of tobacco consumption was cancer (92.8%) followed by dental problems (22.9%), heart and cardiovascular diseases (11.3%), decreased life span (9.3%) as shown in Table 2.

Various multiple choice questions were asked to assess knowledge regarding health hazards of tobacco among undergraduate students. Out of 1921 students who had answered the question, only 53.3% students had correct knowledge regarding "Person consuming tobacco dies how many years earlier". For other questions regarding the health hazards proportion of correct responses were ranged from 77-87% out of the total students who had responded for the same. 73.4% students had correct knowledge that "Smoking leads to impotence and infertility". Only 67.8% students had correct knowledge regarding the effect of tobacco on stress, still 32.2% students had wrong belief that tobacco consumption decreases the stress. Out of 1952 students, 87.5%

students had knowledge that tobacco consumption doesn't increase social status as shown in Table 3.

Table 2: Distribution of students according to knowledge regarding harmful effects of tobacco and source of knowledge.

Variable	No. of students	%
Opinion of students for a question: "Is there any harmful effect of tobacco?" (n=1912)		
Yes	1831	95.8
No	81	4.2
Knowledge regarding various harmful effect of tobacco consumption (n=1798)		
Cancer	1669	92.8
Dental Problem	412	22.9
Heart problem and cardiovascular diseases	204	11.3
Decrease life span	168	9.3
Breathing difficulties	150	8.3
Economical effects	98	5.5
Reduce diet and work capacity	94	5.2
Tuberculosis	86	4.8
Infertility or impotence	30	1.7
Stress	25	1.4
Sources of knowledge (n=1831)		
Television (TV)	1346	73.5
News-paper	1010	55.2
School/College	943	51.5
Cinema	897	49.0
Family	824	45.0
Internet	655	35.8
Friends	599	32.7
Relative	493	26.9
Magazine	437	23.9

Table 3: Correct knowledge regarding effect of tobacco products on health and social aspects.

MCQ bases correct knowledge on effect of tobacco products on health and social aspects	Total Respondents(N)	Correct knowledge n(%)
Leading cause of death in India (A) Heart attack (B) Tuberculosis (C) Accident (D) Tobacco consumption	1951	1508 (77.3)
Leading cause of cancer in India (A) Alcohol (B) Tobacco use (C) Radiation (D) Genetic	1962	1712 (87.3)
Most affected body part due to Khaini (A) Mouth (B) Liver (C) Lungs (D) Intestine	1960	1708 (87.1)
Most affected body part by cancer due to Bidi/ Cigarette (A) Mouth (B) Liver (C) Lungs (D) Intestine	1976	1723 (87.2)
Person consuming tobacco dies how many years earlier (A) 2 (B) 5 (C) 10 (D) 20	1921	1025 (53.3)
Smoking leads to impotence and infertility (A) True (B) False	1915	1405 (73.4)
Tobacco consumption decreases stress (A) Yes (B) No	1939	1315 (67.8)
Tobacco consumption increases social status (A) Yes (B) No	1952	1708 (87.5)

Knowledge of legal aspects of tobacco consumption was assessed by asking multiple choice questions. Only 215 (11.5%) students opted for correct option for "penalty for

smoking in public place". 70.5% and 56.9% students had correct knowledge regarding "Sale of tobacco products is prohibited below which age limit" and "Sale of products

is prohibited within how many meters radius around educational institute” respectively. Only 15.9% students correctly knew the penalty for “Violation of rules of tobacco consumption prohibition” as shown in Table 4.

Table 5 shows association between knowledge of various legal aspects of tobacco product and consumption of tobacco products. There was no statistically significant association between correct knowledge regarding legal aspects and consumption of tobacco products.

Table 4: Distribution of study participants according to knowledge regarding the various legal aspects of tobacco consumption.

MCQ based knowledge on various legal aspects	Total respondents (N)	Correct knowledge n (%)
Penalty for smoking in public place: (A) Fine up to Rs. 100/- (B) Fine up to Rs. 200/- (C) Fine up to Rs. 500/- (D) Fine up to Rs. 1000/-	1863	215 (11.5)
Sale of tobacco products is prohibited below which age limit: (A) 10 years (B) 15 years (C) 18 years (D) 21 years	1906	1344 (70.5)
Sale of tobacco products are prohibited within how many meters radius around educational institute: (A) 25 (B) 50 (C) 100 (D) 200	1941	1104 (56.9)
Tobacco product prohibited in Gujarat: (A) Cigarette (B) Gutkha (C) Bajar (D) Faki/Mava	1792	1048 (58.5)
Amount of Penalty for “Violation of rules of tobacco consumption prohibition”: (A) Rs. 50 (B) Rs.100 (C) Rs. 200 (D) Rs. 500	1931	307 (15.9)

Table 5: Association between knowledge of various legal aspects and consumption of tobacco.

Knowledge	Tobacco consumption		Chi-square Value
	Yes n (%)	No n (%)	
Regarding “Penalty for smoking in public place”			
Correct	15 (7.0)	200 (93.0)	$\chi^2 = 0.416$, df=1,
Incorrect	136 (8.3)	1512 (91.7)	p=0.519
Regarding “Sale of tobacco products is prohibited below 18 years age limit”			
Correct	107 (8.0)	1237 (92.0)	$\chi^2 = 0.303$, df=1,
Incorrect	49 (8.7)	513 (91.3)	p=0.582
Regarding “Sale of products is prohibited within 100 meter radius around educational institute”			
Correct	90 (8.2)	1014 (91.8)	$\chi^2 = 0.028$, df=1,
Incorrect	70 (8.4)	767 (91.6)	p=0.867
Regarding “Gutkha is prohibited in Gujarat”			
Correct	83 (7.8)	976 (92.2)	$\chi^2 = 0.014$, df=1,
Incorrect	55 (8.0)	633 (92.0)	p=0.906
Regarding Penalty for “Violation of rules of tobacco consumption prohibition”			
Correct	20 (6.7)	280 (93.3)	$\chi^2 = 1.115$, df=1,
Incorrect	134 (8.5)	1444 (91.5)	p=0.291

DISCUSSION

In the study conducted by Poreddi et al, 73.6% study participants were from rural area while in present study proportion was 50.2%.⁹ In present study consumers of tobacco products were 8% while current use of any form of tobacco was 11% in study of Kumar PM et al and 8% in the study of Jayakrishna et al.^{10,11} In the National GYTS (Global Youth Tobacco Survey)⁶ conducted in 2004 in India, the prevalence of ever tobacco use was found to be 25.1% whereas current tobacco use was found to be 17.5%.

Awareness about harmful effects of tobacco abuse was among 90.76% students in the study of Shaik et al and mainly they got knowledge from electronic media (61.39%).⁸ In the study conducted by Poreddi et al 98.8% participants agreed that tobacco use is dangerous to health.⁹

In present study television, news-paper, school/college, cinema etc. are the commonest source of knowledge regarding harmful effect of tobacco. In the study of Yadav AA, all students had knowledge that tobacco is harmful to health and commonest source of knowledge

was mass media (Television, Newspaper, internet, cinema etc.) in 92.8% participants.¹² Friends, relative and teacher alone educate about bad effect of tobacco in 25(12.5%), 15(7.5%), 13(6%) students respectively. In other similar studies source of information regarding ill effects of tobacco use from commonest to rarest were mainly television, teachers, friends, parents, newspaper and hoardings.^{13,14}

In the study of Shaik et al, it was seen that 32% of the current smokers consider smoking to be the best way to manage stress, finding similar to present study.³ 46% of current smokers and 17% of current non-smokers think that smoking is stylish.³ In a study conducted in south India, about 3% of the students felt that using tobacco made one smart and cool. Also, 2.4% of the students were of the opinion that smoking makes one more attractive while in present study 12.5% believe that tobacco consumption increases social status.¹⁵

In present study 56.9% students had correct knowledge regarding "Sale of products is prohibited within 100 meters radius around educational institute" while in a study conducted in Bhopal only 20.3% students had awareness on legislation of tobacco products within a certain distance 1.2% participants knew about the distance.¹⁶ In a study conducted in Udaipur, 12 % students had correct knowledge.¹²

In present study, 11.5% students had correct knowledge of penalty in public place. In the studies of Ballal et al, Bhambal et al and Gururaj et al, 63%, 46.5% and 47% participants respectively had knowledge of tobacco act/law, smoking banned in public place.¹⁵⁻¹⁷ In present study, 70.5% students had correct knowledge regarding "Sale of tobacco products is prohibited below 18 years of age limit" while in the similar studies the proportion of correct knowledge was ranged from 13-25%.^{11,12,16} In few of the studies conducted to know the attitude of the participants, 88-92% students support the "ban on public use of tobacco".^{9,15} In the study of Ballal et al, 94.5% participants believed that sale of tobacco should not be allowed below 18 years of age and similar proportion was observed in other study conducted in Bangalore.^{9,15}

CONCLUSION

Majority of students (95.8%) students had knowledge that tobacco consumption is hazardous to health but it has no association with tobacco consumption habit of the students. Common sources of knowledge of hazards are mass media like television, newspaper etc. Knowledge regarding various legislation of tobacco consumption was poor among the undergraduate students.

Recommendation

Knowledge regarding harmful effect of tobacco and legislation of tobacco consumption is poor so, tobacco awareness activities should be regularly conducted in

educational institutes. Television and print media should be encouraged for effective Information, Education and Communication (IEC) activities. Legislation on tobacco should be implemented strictly

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