International Journal of Community Medicine and Public Health
Harish BR et al. Int J Community Med Public Health. 2018 Aug;5(8):3450-3453
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20183079

Original Research Article

Tobacco menace near educational institutions of Mandya city, South Karnataka

Harish B. R., Vinay M.*, Ashwini D., Bindiya J., Mythily M. R.

Department of Community Medicine, Mandya Institute of Medical Sciences, Mandya, Karnataka, India

Received: 07 May 2018
Revised: 11 June 2018
Accepted: 12 June 2018

***Correspondence:**
Dr. Vinay M,
E-mail: doctorvinaym@gmail.com

ABSTRACT

Background: Tobacco kills more than 7 million people a year. India has one of the world's heaviest tobacco-related health burdens. The government of India has enacted the Cigarettes and Other Tobacco Products Act (COTPA) 2003 to control the factors which favor the use of tobacco products. The present study was taken up with the objective to determine the proportion of educational institutions having display boards prohibiting tobacco sales and use, having advertisements & tobacco selling outlets nearby and to assess the awareness regarding rules for tobacco sales among the persons selling tobacco products in these outlets.
Methods: Cross-sectional study conducted from October to December 2017, in all the educational institutions of Mandya city using a pretested, structured questionnaire. Descriptive and inferential statistics was used for analysis.
Results: Of the 92 educational institutions 13 (14.1%) had "No smoking" display boards. 30 (32.6%) had the display board that sale of tobacco products is prohibited within a radius of 100 yards of the educational institution. 146 tobacco selling outlets were present near the 71 educational institutions. 19 (13.0%) sellers knew that sale of tobacco products is prohibited within a radius of 100 yards of the educational institution.
Conclusions: One sixth of the educational institutions had "No smoking" display boards and one third had display board that stated that the sale of tobacco products was prohibited within a radius of 100 yards of the educational institution. The awareness regarding sale of tobacco products was inadequate among the persons selling tobacco products.

Keywords: Tobacco, Educational institutions, Awareness

INTRODUCTION

Tobacco products are products made entirely or partly of leaf tobacco as raw material, which are intended to be smoked, sucked, chewed or snuffed. All contain the highly addictive psychoactive ingredient, nicotine. Tobacco use is responsible for many chronic diseases like cancer, lung diseases, and cardiovascular diseases.[1]

Tobacco kills more than 7 million people a year either by direct tobacco use or by second-hand smoke. 80% of the one billion smokers worldwide live in low & middle income countries. Tobacco use is responsible for the high morbidity and mortality in these areas which indirectly hinder economic development.[2]

There are 4000 chemicals in tobacco smoke, of which 250 are harmful and 50 are carcinogenic. There is no safe level of exposure to second-hand tobacco smoke. In infants, it causes sudden death. In pregnant women, it causes low birth weight babies. Almost half of children regularly breathe air polluted by tobacco smoke in public

places. Children account for 28% of the deaths attributable to second-hand smoke.[2]

20% of the world's population is protected by comprehensive national smoke-free laws. Reduction in tobacco advertisements, prohibiting smoking in public places, graphic pack warnings and health education through mass media reduce the number of children who begin smoking and increase the number of smokers who quit. It persuades smokers to protect the health of non-smokers by smoking less inside the home and avoiding smoking near children.[2]

India has one of the world's heaviest tobacco-related health burdens. According to the Global Adult Tobacco Survey (GATS) 2016-17 India [3], the prevalence of adult tobacco smoking is about 19% among male, especially beedis, cigarettes and hookahs. India has the highest number of smokeless tobacco users globally, with more than 200 million people using them. Men use these products more than women. The most used smokeless products are khaini, gutkha, zarda, betel quid with tobacco, etc.[4]

Many begin to use tobacco products when they are in high schools or in the beginning of college days. Children and youth are influenced to use tobacco products, by seeing advertisements, easy availability and seeing others using it. The government of India has enacted the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act 2003 (COTPA) to control the factors which favor the use of tobacco products by people.[5]

The present study tries to assess the factors which prevent children and youth to use tobacco products in and around educational institutions in Mandya city.

Objectives

- To determine the proportion of educational institutions having display boards prohibiting tobacco sales and use.
- To determine the proportion of educational institutions having direct / indirect advertisements nearby.
- To determine the proportion of educational institutions having tobacco selling outlets nearby.
- To determine the awareness regarding rules for tobacco sales among the persons selling tobacco products in these outlets.
- To compare the above between government and private educational institutions.

METHODS

This cross sectional study was conducted during October-December 2017 in the city of Mandya after taking permission from Institutional Ethics Committee of Mandya Institute of Medical Sciences, Mandya. Mandya city is the district headquarters of Mandya district located in south of Karnataka state. It has a population of about 1.37 lakhs. It has a total of 108 educational institutions. Of these 71 are schools, 13 are pre-university colleges and 8 are degree colleges (which included 1 engineering and 1 medical college). All these schools and colleges were included in the study. Play homes/Montessori's/ Anganwadis were not included in the study. A school for children with special needs was also not included in the study. In some cases more than one educational institution was located in the same campus. These have been taken as one unit for analysis and for avoidance of duplication of data. Thus 92 educational institutions were considered for study.

The following data was collected using a pretested, structured questionnaire:

- Presence of "No smoking" and other relevant display boards in educational institutions
- Presence of direct or indirect advertisements nearby
- Presence of tobacco selling outlets nearby
- Knowledge regarding rules for tobacco sales among those selling tobacco nearby.

Data was entered on Microsoft excel software. Information was depicted using descriptive statistics. Univariate and bivariate analysis and differences in proportions were analyzed using Epi-info software version 7.

RESULTS

Among the total of 92 educational institutions, 30 (32.6%) were government and 62 (67.4%) were private educational institutions.

A total of 13 (14.1%) educational institutions had the "No smoking" display boards within the premises or on the wall of the educational institutions. Among the 30 government 10 (33.3%) and among 62 private educational institutions 3 (4.8%) had these display boards. The difference was statistically significant (p=0.001).

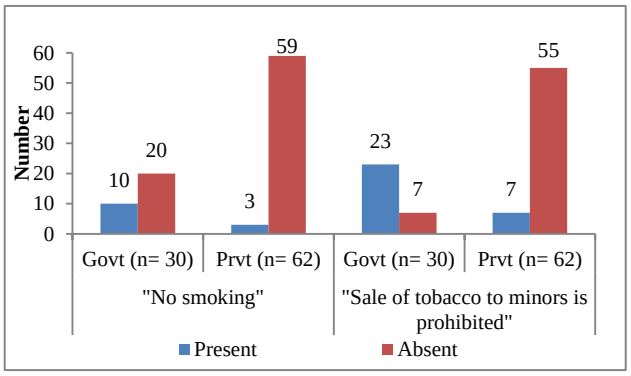

Figure 1: Bar chart showing the type of educational institution and display boards present in them.

30 (32.6%) of the 92 educational institutions had the display board that sale of tobacco products is prohibited within a radius of 100 yards of the educational institution. Among the 30 government 23 (76.6%) and among 62 private educational institutions 7 (11.2%) had these display boards. The difference between the two was statistically significant (p=0.003), refer Figure 1.

The visible area around the educational institutions was observed for direct or indirect tobacco advertisements. One government educational institution had direct tobacco advertisements and none of the educational institutions had indirect tobacco advertisements.

Of the 92 educational institutions 71 (77.2%) educational institutions had tobacco selling outlets within the visible area around them. 29 (96.7%) out of 30 government and 42 (67.7%) out of 62 private educational institutions had these tobacco selling outlets nearby. The difference was statistically significant (p=0.002).

Table 1: Number of tobacco selling shops near educational institutions.

Number of tobacco selling shops	Near government educational institutions (%)	Near private educational institutions (%)
1	14 (48.3)	20 (32.3)
2	8 (27.6)	9 (14.5)
3	4 (13.8)	7 (11.3)
>3	3 (10.3)	6 (9.7)
Total	29 (96.7)	42 (67.7)

*p=0.002.

A total of 146 tobacco selling outlets were present near the 71 educational institutions of Mandya city (Table 1).

An average of 2 tobacco selling outlets was found near each government institution. An average of 1.5 tobacco selling outlets was found near each private institution.

Of the 146 outlets, 48 (32.9%) were pucca shops, 76 (52.0%) were shanty shops and 22 (15.1%) were mobile units.

Of 146 tobacco selling outlets, 3 (2%) had the display boards “Tobacco sales to minors is prohibited” and "Tobacco causes cancer". Of these 3 outlets, 1 (33.4%) was near government and 2 (66.7%) were near private educational institutions.

Of the 146 outlets, 78 (53.4%) had tobacco products prominently displayed in their shops. Of those shops 32 (41.1%) were near government and 46 (58.9%) were near private educational institutions. The difference was statistically significant (p=0.005).

In the 146 tobacco selling outlets 118 (80.8%) of the shops had cigarettes (Figure 2).

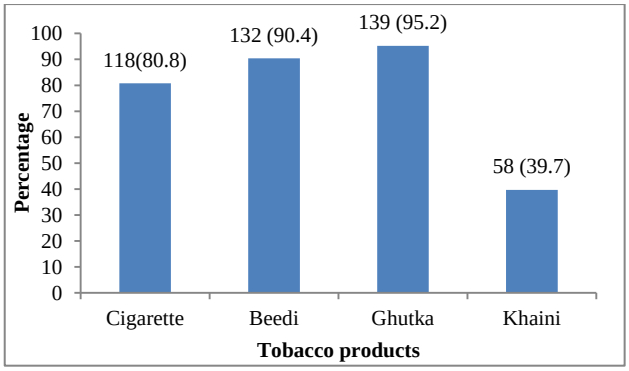

Figure 2: Bar chart showing the type of tobacco products sold in outlets (n=146).

Of the 146 outlets, sellers of 144 (98.6%) outlets knew that tobacco was injurious to health. 19 (13.0%) knew that sale of tobacco products is prohibited within a radius of 100 yards of the educational institution. 15 (79.0%) sellers among the 19 knew that their outlet were within 100 yards of an educational institution.

124 (84.9%) knew regarding the rule that tobacco product should not be sold to those less than 18 years of age. Of the remaining 22, 12 (54.5%) felt that it could be sold to pre university college/diploma students (16-18 years) and 10 (45.5%) opined that it could be anybody who came to purchase.

141 (96.5%) sellers revealed that they assessed the age of the person buying tobacco products from them, out of which 3 (2.1%) sellers confessed that they had sold tobacco products to minors and 2 (1.4%) assumed that they were buying it for an adult acquaintance.

DISCUSSION

This study is the first of its kind conducted to report the tobacco menace near educational institutions of Mandya City, South Karnataka. We studied a total of 92 educational institutions. 13 (14.1%) educational institutions had display board of “No Smoking” which was similar to the study done in Mangalore, where 10% of schools had display boards.[6]

30 (32.6%) of the educational institutions had the display board that sale of tobacco products is prohibited within a radius of 100 yards of the educational institution which was less compared to study conducted among the educational institutions of Delhi, which was 63%, 94% in a study done in Rajasthan and 50% in a study done in Mangaluru.[6-8]

71 (77.2%) educational institutions had tobacco selling outlets within the visible area around them it was only 9% in a study done in Rajasthan and 57% in study done in Mangaluru[6] and 42% in a study done in Delhi.[8,9]

In our study it was found that 12 (8.2%) felt that it could be sold to pre university college/diploma students and 10 (6.8%) opined that it could be sold to high school students, it was comparatively high in a study done in New Delhi which reported 16% of tobacco vendors were selling tobacco to minors.[10]

In our study 3 (2.1)% sellers confessed that they had sold tobacco products to minors which was low compared to a study done in Mumbai where 25% told they sold tobacco products to minors.[11]

CONCLUSION

Only one sixth of the educational institutions had "No smoking" display boards. Government institutions were better than private institutions in displaying these boards (33% & 5%). One third of educational institutions had display board that stated that the sale of tobacco products was prohibited within a radius of 100 yards of the educational institution. Majority of the government institutions had these display boards while only 11% of private institutions had these. Only one direct advertisement was found, near a government educational institution. No indirect advertisements were found. 77% educational institutions had tobacco selling outlets within 100 yards. Tobacco selling outlets were present near two thirds of private and almost all government educational institutions. Only 2% of the tobacco selling outlets had the appropriate display boards. The awareness regarding sale of tobacco products was inadequate among the persons selling tobacco products in these outlets.

Recommendation

Bringing behavioral change and effective implementation of law, which prohibits selling and use of tobacco products near educational institutions is essential

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Harish BR, Vinay M, Ashwini D, Bindiya J, Mythily MR. Tobacco menace near educational institutions of Mandya city, South Karnataka. Int J Community Med Public Health 2018;5:3450-3.