

Original Research Article

Assessment of compliance to the COTPA 2003 legislation in tertiary healthcare institutes of Shimla: a smoke free city in India

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Received: 10 January 2019

Accepted: 09 February 2019

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ABSTRACT

Background: Tobacco smoking is a pandemic affecting populations and contributing to global morbidity and mortality. It is well known that the second hand smoke is equally hazardous like first hand smoke. Cigarette and other tobacco products act 2003 is an effort put forth by Government of India in order to curb this menace and protect people from ill effects of second hand smoke.

Methods: The present study was conducted to assess the compliance to smoke free act in tertiary healthcare institutes in Shimla city, Himachal Pradesh. A total of 57 public places and 8 shops in five Tertiary healthcare institutes were evaluated for various provisions of the act. Compliance to different sections of the act was assessed using a structured observational checklist.

Results: Signage indicating ban on smoking was seen at 71.9% places. Active smoking was absent at 77.2% places. About 25% shops around the institutes were found selling tobacco products. Signage displaying ban on sale within 100 m of educational institution and sale to minors was not observed at any shop. Tobacco product vendor was seen around 80% of educational buildings. Tobacco free institution signage was seen at 60% of educational premises.

Conclusions: The study highlights that the level of compliance did not meet the standards laid down for a smoke free city. Timely and periodic assessment of the compliance must be conducted by the administrative authorities of the institutes for ensuring the adherence and strict implementation of the provisions of the act.

Keywords: COTPA 2003, Tertiary healthcare institutions, Smoke free city

INTRODUCTION

Tobacco addiction being a global phenomenon kills more than AIDS, illegal drugs, road accidents, murder, and suicide combined.¹ Scientific evidence has shown conclusively that all tobacco forms cause health problems throughout life, frequently resulting in death or disability.¹ World Health Organization (WHO) has provided an estimate that tobacco use, in any form currently can be held responsible for the death of about seven million people across the globe each year with many of these deaths occurring prematurely. By 2030,

unless an urgent action is taken, the death toll will exceed eight million a year.² Mortality due to tobacco in India is estimated in the tune of 1.3 million.^{3,4}

Though consuming tobacco in any form is hazardous; smoking poses a threat to both smokers as well as non-smokers. There are more than one billion smokers globally, who can potentially expose all others to second-hand smoke (SHS).⁵ It is now unequivocally established that exposure to SHS is as harmful as active smoking and causes death, disease and disability. An approximate one

million people are estimated to die each year from the effects of second-hand smoke.⁶

To curb down the global tobacco epidemic, WHO came up with the comprehensive response in the form of framework convention on tobacco control (FCTC).⁷ Recognizing adverse health impact of SHS among non-smokers, Government of India translated FCTC into “cigarettes and other tobacco products (prohibition of advertisement and regulation of trade and commerce, production, supply, and distribution) act, 2003” (COTPA) to prohibit and regulate tobacco use in India.⁸ This legislation is intended to protect and promote public health, encompass evidence based strategies to reduce tobacco consumption, to curb smoking in public places and impose penalties to the violators.

Among various states in India Himachal Pradesh has been a better performer under this legislation with state itself along with its capital having been declared smoke free.^{9,10} Varying levels of compliance have been demonstrated to different sections of the legislation in the state, which tends to decline with the passage of time.^{11,12}

Though many surveys to assess compliance have been conducted in public places globally, yet this parameter has been explored minimally in academic tertiary health care institutions. A tertiary institute serves both as a provider of health-care as well as medical education to the budding doctors. A smoke free hospital campus can display an example for commitment towards good health. On one hand, it communicates a health oriented message to the community and patients, and on the other hand it can certainly reduce exposure to harmful tobacco smoke. It further discourages initiation of smoking amongst non-users of smoking and motivates smokers to quit.

Keeping all this in mind, the present study was undertaken with an objective of assessment of compliance to smoke free act (COTPA 2003) in tertiary healthcare institutes and associated facilities in Shimla city, Himachal Pradesh.

METHODS

Study area

The study was conducted in the tertiary health care academic institutes of Shimla city, Himachal Pradesh comprising of Indira Gandhi Medical College Shimla, Government dental college Shimla, Kamla Nehru hospital for mother and child Shimla, regional cancer centre, Sister Nivedita Government nursing college; and associated hospitals and facilities.

Study population

The study was conducted in the public places of the institutions as defined in COTPA 2003. The public places such as hospital buildings, educational buildings,

accommodation facilities, eateries, offices, other ‘most frequently visited public places (parking lots, thorough fares)’ and public transport were included for the purpose of study. A list of all such public places and shops in and around institutes was prepared for study purpose.

Study design

An observational cross sectional study.

Study period

The study was conducted for a period of 3 months from August 2018 through November 2018.

Study sample

After a survey of the institutes, 57 public places and 8 shops were included in study for assessment of COTPA compliance.

Study tool

A structured observational checklist adapted on the COTPA 2003 specifications and guidelines; and a guide jointly developed by John Hopkins school of public health, tobacco free kids and international union against tuberculosis and lung disease was used to record the observational findings.^{13,14}

Procedure

A list of different categories of public places as defined by COTPA 2003 was prepared. Data was collected from various public places using the structured observational checklist. Offices, educational buildings were observed in official hours, shops and eateries during peak business hours and public places during peak visited timings. Out of various sections of the act, the compliance to Section 4, Section 5 and Section 6 of the COTPA 2003 was assessed during the study.

Statistical analysis

The data was collected, cleaned and entered into Microsoft Excel spreadsheet and was transferred to Epi info version 7.2.2.6 software. The discrete variables were expressed in terms of frequencies, proportions and percentages with 95% confidence intervals. The continuous variables were expressed as means±standard deviation. Pearson’s Chi-squared or Fisher exact test was used to test the statistical significance of dichotomous categorical data. Two tailed $p < 0.05$ was considered as statistically significant.

Ethical considerations

Prior permission was taken from Institute Ethical Committee to go ahead with the study. Institutional identifiers were omitted in order to maintain

confidentiality and anonymity. Necessary prior permission for the study was obtained from concerned Administrative authorities of the Shimla city.

RESULTS

The present observational cross-sectional study was conducted among 57 public places and 8 shops of the tertiary care institutes of Shimla city. The distribution of various categories and sub-categories of the public places included in study is summarized in Table 1. The mean time of observation of was 30.17 ± 9.90 minutes (15 to 60 minutes).

COTPA section 4 compliance

COTPA section 4 prohibits persons from smoking in public. Table 2 shows the compliance of section 4 in the public places of the institutes.

Active smoking was seen in about 22.8% of places. About 71.9% places displayed a signage signaling ban on smoking inside building. About 63.2% places displayed the standard warning signage saying “no smoking area: smoking here is an offence”. In 36.8% places, signage showing name of authority to which a complaint can be

made in case of violation of act was seen. Smoking aids were observed at less than 5% of places. Tobacco remains were observed at about 26.3% places. No ‘designated smoking area (DSA)’ was seen anywhere in institutes. In 35.1% places, a person violating the act was imposed fined in past one year.

Table 1: Study sample distribution.

Category (n)	Sub-category	Number (%)
Public places (n=57)	Offices	19 (33.3)
	Eateries	12 (21.1)
	Hospital/college buildings	11 (19.3)
	Most visited public places	9 (15.8)
	Residential buildings	3 (5.3)
	Transport facilities	3 (5.3)
Shops (n=8)		8 (100)

Table 3 compares different categories of public places for the compliance COTPA 2003 section 4. Overall the offices, hospital buildings and transport facilities displayed better compliance; however the difference was not statistically significant except for issuing challans to violators.

Table 2: COTPA section 4 compliance of all public places of tertiary institute (n=57).

Indicator	Number (%)	95% CI
Signage signalling ban on smoking at entrance	29 (50.9)	37.3-64.4
Signage signalling ban on smoking inside public place	41 (71.9)	58.5-83.0
Signage of ‘no smoking area: smoking here is an offence’	36 (63.2)	49.3-75.6
Signage of 60 cm×30 cm inside the building	25 (43.9)	30.7-57.6
Signage displaying authority for making complaint	21 (36.8)	24.5-50.7
Message displayed in a language specified in act	57 (100)	93.7-100
No active smoking during observation	44 (77.2)	64.2-87.3
No visible ashtrays/ashbins indoors	55 (96.5)	87.9-99.6
No lighter/matchbox observed indoors	57 (100)	93.7-100
No cigarette/bidi stubs inside location	42 (73.7)	60.3-84.5
No matchsticks on floor	40 (70.2)	56.6-81.6
No odour of tobacco inside location	47 (82.5)	70.1-91.3
Absence of designated smoking areas indoors	57 (100)	93.7-100
Any awareness regarding COTPA 2003	54 (94.7)	85.4-98.9
Facility issued challan to violator in past one year	20 (35.1)	22.9-48.9

COTPA 2003 Section 5 and 6 (a) compliance

COTPA 2003 section 5 prohibits advertisement of cigarettes and other tobacco products except in certain conditions as clarified under the act. Section 6 (a) of COTPA 2003 prohibits sale of cigarette or other tobacco products to a person below the age of eighteen years. However as tertiary care institutes are also educational institutions, such advertisement and sale is not permissible within the premises of institutes.

The compliance of the shops for section 5 and 6 (a) is shown in Table 4. About 25% shops were observed selling tobacco products, clearly violating act. No shop displayed any kind of tobacco advertisement at site. Signage displaying ban on sale within 100 m of educational institution and sale to minors was not seen at any shop.

COTPA 2003 Section 6 (b) compliance

Section 6 (b) of COTPA 2003 prohibits sale of cigarette or other tobacco products in an area within a radius of

one hundred meters of any educational institution. In addition Government has also issued tobacco free educational institution guidelines.

Table 3: COTPA section 4 comparison of public places.

Indicator	Offices (n=19) %	Eateries (n=12) %	Hospital or college buildings (n=11) %	Most visited places (n=9) %	Residential (n=3) %	Transport (n=3) %	P value
Sign of smoking ban at entrance	9 (47.4)	4 (33.3)	7 (63.6)	6 (66.7)	0	N/A	0.117
Signage of ban on smoking inside	12 (63.2)	7 (58.3)	11 (100)	7 (77.8)	1 (33.3)	3 (100)	0.060
Sign “no smoking area: smoking here is an offence”	12 (63.2)	4 (33.3)	9 (81.8)	7 (77.8)	1 (33.3)	3 (100)	0.081
Signage of 60 cm by 30 cm inside	8 (42.1)	4 (33.3)	6 (54.5)	3 (33.3)	1 (33.3)	N/A	0.419
Sign displaying authority’s name for complaint	5 (26.3)	3 (25)	8 (72.7)	4 (44.4)	1 (33.3)	0	0.087
Message in a specified language	19 (100)	12 (100)	11 (100)	9 (100)	3 (100)	3 (100)	-
No active smoking during observation	17 (89.5)	10 (83.3)	8 (72.7)	4 (44.4)	2 (66.7)	3 (100)	0.133
No ashtray inside	19 (100)	10 (83.3)	11 (100)	9 (100)	3 (100)	3 (100)	0.299
No lighter or matchbox inside	19 (100)	12 (100)	11 (100)	9 (100)	3 (100)	3 (100)	-
No cigarette stubs inside location	15 (78.9)	9 (75)	10 (90.9)	3 (33.3)	2 (66.7)	3 (100)	0.076
No matchsticks on floor	14 (73.7)	9 (75)	9 (81.8)	3 (33.3)	2 (66.7)	3 (100)	0.188
No tobacco odour inside	16 (84.2)	9 (75)	11 (100)	6 (66.7)	2 (66.7)	3 (100)	0.296
Absence of DSA	19 (100)	12 (100)	11 (100)	9 (100)	3 (100)	3 (100)	-
Prior sensitization regarding act	16 (84.2)	12 (100)	11 (100)	9 (100)	3 (100)	3 (100)	0.474
Facility fined violators in past one year	3 (15.8)	2 (16.7)	11 (100)	4 (44.4)	0	0	<0.001

Table 5 highlights the compliance of COTPA section 6 (b) in the institutes. No tobacco product vendor was observed within 100 m in 20% of institutions. ‘Tobacco

free institution’ signage on was observed in almost 60% institutions. No tobacco POS was seen inside anywhere. Active smoking was seen inside 60% educational buildings.

Table 4: COTPA section 5 and 6 (a) compliance of shops.

Indicator	Number (%)	95% CI
Shop selling tobacco product within 100 m of institute (n=8)	2 (25)	3.2-65.1
Sign displaying ban on sale within 100 yards of institute (n=8)	0	-
Warning signage displaying ban of sale to minor (n=2)	0	-
No Advertisement in any form at shop (n=2)	2 (100)	15.8-100
Presence of Non-minor vendor (n=2)	2 (100)	15.8-100
No tobacco product sold to minor during observation (n=2)	2 (100)	15.8-100
Vendor enquiring about age of purchaser (n=2)	0	-
Non prominent display of tobacco products (n=2)	2 (100)	15.8-100
No tobacco product kept within 6 inches of eatables (n=2)	2 (100)	15.8-100
No loose cigarette sold at shop	0	-
Absence of vending machine for tobacco products (n=2)	2 (100)	15.8-100

Table 5: COTPA section 6 (b) compliance of educational institution buildings (n=5).

Indicator	Number (%)	95% CI
No tobacco product vendor within 100 m of institution	1 (20)	0.5-71.6
‘Tobacco free institution’ signage on boundary wall or entrance of institution	3 (60)	14.7-94.7
Signage displaying ban on sale within 100 m of institution near main gate/boundary wall	3 (60)	14.7-94.7
Signage showing “no smoking area: smoking here is an offence” of specified size inside institution	5 (100)	47.8- 100
No tobacco shop inside the institution building	5 (100)	47.8-100
No active smoking inside institution	2 (40)	5.3-85.3

DISCUSSION

The present study was undertaken to study the compliance to section 4, section 5 and section 6 of COTPA 2003 in tertiary care institutes located in a smoke-free city of India. In the present study no active smoking was seen in 77.2% of places which was similar to a study conducted in medical institute of North India (75%).¹⁵ In contrast to a similar study conducted in Chandigarh, active smoking was not observed in 47.5% of places.¹⁶

Signage signaling ban on smoking inside public place was observed in 71.9% places. This compliance was better than what was observed in two similar studies where signage was seen at 20% and 28% places respectively.^{15,16} In 36.8% places, signage showing name of authority to whom a complaint can be made in case of violation of act was observed in the present study. Only 5% of places displayed such signage in a study by Tripathy et al, while Sharma et al reported absolute absence of such signage.^{15,16}

In our study, the smoking aids were seen at mere 4.5% of places. In contrast such aids were seen at about 65% places in an institute in Chandigarh.¹⁶ No tobacco remains (cigarette/bidi stubs) were seen at 73.7% places.

About 70% places were found to be tobacco litter free in a study by Sharma et al while Tripathy et al reported such proportion to be only 7.5% places.^{15,16}

Indirect smoking indicators like matchsticks on floor and odour of tobacco were found to be absent at 70.2% and 82.5% places respectively. An absolute non-compliance was reported by Sharma et al for this provision of the act.¹⁵

As tertiary care institutes are also the educational institutes, as per COTPA 2003, no tobacco product can be sold within 100 m of the institution. However, in present study 25% of total shops were found violating act by selling tobacco products. In a similar study tobacco products were not sold at about 75% places around institution.¹⁵

CONCLUSION

Tobacco consumption in any form is a major contributor of non-communicable diseases and second hand smoke is as harmful as first hand smoke. A varied compliance was observed for different sections in the institutional premises. The poor compliance observed for certain aspects advocate necessary corrective actions. Periodic compliance surveys should be undertaken to monitor the

adherence to the provisions of the act. The administration should take appropriate measures for relevant implementation of smoke free act.

Limitations

The duration of observation was taken arbitrarily for 15 to 60 minutes, which may have led to the underestimation of the violation of the act.

ACKNOWLEDGEMENTS

We acknowledge the support of administrative authorities of Shimla City and health care institutes for granting necessary permission for the study.

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: Thakur A, Chaudhary A, Chauhan T, Gupta A, Mahjan A, Barwal V, et al. Assessment of compliance to the COTPA 2003 legislation in tertiary healthcare institutes of Shimla: a smoke free city in India. *Int J Community Med Public Health* 2019;6:1229-34.