

**Creation of a Smoke Free Environment for Children: An Assessment of Compliance to COTPA
2003 Legislation in an Urban Area**

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ABSTRACT

Objective: To ascertain the compliance to Cigarette and Other Tobacco Products Act (COTPA) 2003 which ensures the protection of children from the adverse health effects of second hand smoke. **Methods:** This cross-sectional study assessed the compliance of 32 educational institutions and 157 points of sale of Shimla city. **Results:** About 88% of the educational institutions and mere 7.6% points of sale were found having good compliance to the key indicators. No PoS was found within the premises of educational institutions; however, 26% were found selling tobacco products within 100 metres radius of an educational institution. 7.6% points of sale were found selling a tobacco product to children. **Conclusion:** Despite having the status of a smoke free city, lapses were observed in compliance to the Act. Strict adherence to the provisions of the Act would ultimately lead to a smoke-free environment for our children.

Keywords: *Law, Second-hand smoke, Tobacco.*

Tobacco is a global epidemic affecting all ages and genders; listed as leading cause of mortality across the globe [1,2]. Its consumption is on the rise in pediatric age group in India [3]. Currently 14.6% children aged 13-15 years use some form of tobacco, 36.6% of children are exposed to second hand smoke in public places, and 21.9% at home [4,5]. The Government of India passed a legislation COTPA 2003 to prohibit and regulate tobacco use in India [6]. This legislation intends to protect and promote public health; and encompass evidence-based strategies to reduce tobacco consumption, to curb smoking in public places and impose penalties to the violators. Section 6 of this Act addresses the protection of children from the menace of tobacco and prohibits sale of cigarette or other tobacco products to minors and in an area within a radius of 100 m of any educational institution. Shimla the capital of Himachal Pradesh was the fourth city in the country to be declared smoke-free in 2010 [7] and the state itself was declared so in 2013 [8]; however, the sustainability of the smoke-free status remains a matter of challenge as the compliance tends to decline with time. With this background, this cross-sectional study was conducted to assess compliance to Section 6 of COTPA 2003 in Shimla city.

METHODS

This study was conducted from August 2017 through July 2018 among 32 educational institutions and 157 points-of-sale (PoS) of Shimla using a structured observational checklist based 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. [9,10]. Necessary prior permission was obtained from concerned administrative authorities of the Shimla city and Head of the educational institutes selected for the study. Ethical approval for the study was taken from the institutional human ethics committee.

Data collection was done by all the authors comprising two research teams of public health experts. The quality of data collected was ensured by observation of the same facility twice by two different teams of researchers on separate days and at different times of the day. On both occasions each of these facilities were observed for at least an hour. The educational institutes and PoS were observed during official hours and peak business hours, respectively.

This is a part of larger study where we evaluated all 10 sections of COTPA 2003. However, we are here in presenting findings of Section 6 which addresses the protection of children from the menace of tobacco and second hand smoke. An exhaustive list of 521 different categories of public places was procured from the concerned authorities and a separate list of PoS in the city was also prepared. A sample proportionate to the strength of each sub-category was selected from the list of various public places and PoS in the city. Thereafter, the educational institutes and PoS were selected randomly by using lottery method.

An educational institute or PoS was labelled as compliant, partially compliant and non-compliant, if all, some or none of the indicators defined under Sections 6 of the Act were met, respectively. To assess the overall compliance to this section, a few key indicators were stressed upon. Good compliance was defined as having fulfilled more than 80% of those key indicators.

Statistical analyses: The data was analyzed using Epi info version 7.2.2.6 software. Association between categorical variables was analyzed using Pearson's chi-square or Fisher exact test. *P* value of < 0.05 was considered as statistically significant.

RESULTS

In the present study a total of 32 educational institutes and 157 PoS were observed. Compliance of PoS/shops to COTPA 2003 is summarized in **Table I**. On comparing different type of PoS establishments, permanent shops were significantly more likely to display signages prominently ($P=0.035$) and also display of signages of ban of sale to a minor person ($P=0.021$). Temporary kiosks were least likely to display the signage at a prominent place. Permanent shops and permanent kiosks were better compliers regarding display of signage displaying ban on sale of a tobacco product to a person aged less than 18

years (**Table II**). In general Government institutes performed better than private institutions; however, the difference was statistically not significant. (**Table III**). On an average 4 out of 7, and 4 out of 5 key indicators were fulfilled in section 6 (a) and 6 (b), respectively. Only 7.6% of the PoS in the city showed good compliance to the sub-section 6 (a). For the sub-section 6 (b), high compliance was seen among educational institutes with about 88% of the institutes displaying more than 80% compliance to the key indicators.

DISCUSSION

In the present study almost a quarter of PoS were found within 100 metres of the educational institutions; however, a negligible number of PoS were found selling tobacco products to minors and majority refrained from tobacco advertisement. Overall good compliance was observed to the provisions of Section 6 of COTPA 2003. Educational institutions in Shimla on the whole conformed to the specified norms of the Act. There was complete absence of tobacco product vending machines at all observation sites

A study conducted in Chandigarh [11] found that 27% of the PoS were compliant to all indicators whereas none of the PoS showed such compliance in Ahmedabad [12]. Majority of the vendors in our study were non-minors. This was corroborated with the findings conducted in Bihar, Kerala and Maharashtra [13-15]. In the present study, partial compliance was observed in display of such warning signages by the PoS. These violations were noticed in the form of specifications of the signage boards (size and content) not being met and their obscure placement. These results were similar to a previous study [16], which found only one-third compliance. Better compliance was seen in Rajasthan where 93% shops displayed such signage [17]. Most of the vendors did not enquire about the age of the purchaser while selling tobacco products which could possibly lead to unregulated purchase of tobacco products by children. Similar findings were reported by two different studies conducted in Rajasthan and Karnataka. [17,18].

The presence of PoS near to the school and absence of warning signages induce easy accessibility and substantial vulnerability to tobacco use. Such risk-taking behaviour in childhood tends to increase exponentially due to peer pressure, once established persists throughout life and is resistant to change. The reasons for partial compliance in a few areas can be attributed to lack of awareness and apathetic attitude of both, those selling tobacco products as well as the law enforcing agencies.

There is still a dearth of literature on this topic. Not much suggestions are found to implement the Act. Information pertinent to non-communicable diseases, their risk factors and legislations like COTPA should be included in the school curriculums to sensitize the children at an early age. The effective implementation of any legislation is a collective responsibility of multiple stakeholders, each with clearly defined roles and responsibilities.

The ill health-effects of tobacco and second hand smoke on children were not assessed as this was beyond the scope of this study. Owing to the limited duration of observation of a facility, the possibility of underestimation of the violations of the Act cannot be ruled out.

Ethical Clearance: Prior permission was taken from Institute Ethical Committee for the study.

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WHAT THIS STUDY ADDS?

- Overall, good adherence to COTPA 2003 6 (A) was observed in Shimla city with non-significant differences between government and private schools.

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TABLE I COTPA SECTION 6 (A) COMPLIANCE OF POINTS OF SALE OF SHIMLA CITY

<i>Section 6 (a) compliance of PoS (n=157)</i>	
<i>Indicator</i>	<i>Number (%)</i>
Within 100 m of school	41 (26.1)
Warning signage displaying ban of sale to minor	70 (44.6)
Non-minor vendor	137 (87.3)
No tobacco product sold to minor during observation	145 (92.4)
Vendor enquiring about age of purchaser	22 (14.0)
Non prominent display of tobacco products	43 (27.4)
No tobacco product kept within 6 inches of eatables	39 (24.8)
Absence of vending machine for tobacco products	157 (100)
<i>Section 6 (a) compliance of PoS near educational institutes (n=41)</i>	
Sign displaying ban on sale within 100 yards of school	28 (68.3)
<i>Section 6 (a) compliance of PoS displaying ban on sale near school (n=28)</i>	
Signage at prominent place	20 (71.4)
Warning signage of specified size	13 (46.4)
<i>Section 6 (a) compliance of PoS displaying ban on sale to minor (n=70)</i>	
Minor ban sign at prominent place	46 (65.7)
Warning signage of specified content (text and picture)	22 (31.4)

COTPA: Cigarette and other tobacco products (Prohibition of advertisement and regulation of trade and commerce, production, supply and distribution) Act, 2003; PoS: Points of sale.

TABLE II SECTION 6 (A) COMPLIANCE DIFFERENT POINTS OF SALE OF THE CITY COMPARED

<i>Section 6 (a) compliance comparison of different types of PoS</i>				
<i>Indicator</i>	<i>Permanent Shop (n=120)</i>	<i>Permanent Kiosk (n=23)</i>	<i>Temporary Kiosk (n=14)</i>	<i>P value</i>
PoS within 100 m of institution	31 (25.8)	8 (34.8)	2 (14.3)	0.394
Signage displaying ban of sale to minor	55 (45.8)	11 (47.8)	4 (28.6)	0.485
Presence of non-minor vendor	105 (87.5)	20 (87)	12 (85.7)	0.920
No tobacco product sold to minor during observation	111 (92.5)	21 (91.3)	13 (92.9)	0.877
Vendor enquiring about age of purchaser	18 (15)	3 (13)	1 (7.1)	0.921
Non prominent display of tobacco products	34 (28.3)	7 (30.4)	2 (14.3)	0.550
No tobacco product kept within 6 inches of eatables	29 (24.2)	6 (26.1)	4 (28.6)	0.853
<i>Section 6 (a) compliance comparison of PoS near educational institutes (n=31, n=8, n=2)</i>				
Sign displaying ban on sale within 100 m of institution	20 (64.5)	6 (75)	2 (100)	0.718
<i>Section 6 (a): PoS displaying ban on sale near school compared (n=20, n=6, n=2)</i>				
Signage at prominent place	14 (70)	6 (100)	0	0.035
Signage of specified size	9 (45)	3 (50)	1 (50)	1.000
<i>Section 6 (a): Different PoS displaying ban on sale to minor compared (n=55, n=11, n=4)</i>				
Signage of specified content (text and picture)	13 (23.6)	7 (63.6)	2 (50)	0.021
Sign at prominent place	36 (65.5)	8 (72.7)	2 (50)	0.718

Data presented as no. (%) PoS: Points of sale

TABLE III COTPA SECTION 6 (B) COMPLIANCE OF EDUCATIONAL INSTITUTIONS

<i>Indicator</i>	<i>Total, No (%) (n=32)</i>	<i>Government, No (%) (n=12)</i>	<i>Private, No (%) (n=20)</i>	<i>P value</i>
No tobacco product vendor within 100 m of institution	25 (78.13)	9 (75)	16 (80)	1.000
'Tobacco free Institute' signage on boundary wall or entrance of institution	29 (90.63)	12 (100)	17 (85)	0.274
Signage displaying ban on sale within 100 m of school near main gate/boundary wall	28 (87.50)	12 (100)	16 (80)	0.271
"No smoking area: Smoking here is an offence" signage of specified size inside	21 (65.63)	10 (83.3)	11 (55)	0.139
No tobacco PoS inside institution	32 (100)	12 (100)	20 (100)	-
No active smoking inside institution	30 (93.75)	11 (91.7)	19 (95)	1.000

PoS: Point of Sale.