

# Assessment of Implementation and Awareness of Cigarettes and Other Tobacco Products Act in High Schools and Higher Secondary Schools of Kasaragod District, Kerala

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Ganesh Vasudevan<sup>1</sup>, Aarathi Ajayakumar<sup>1</sup> and Srikant Ambatipudi<sup>1</sup>

## Abstract

**Background:** Tobacco use remains the single largest preventable cause of mortality globally, accounting for 8 million premature deaths each year. Even after a decade of enactment of tobacco control laws in India, their acceptance and successful implementation remain challenging. This study was envisaged to assess the implementation of the Cigarettes and Other Tobacco Products Act (COTPA) in schools and the awareness levels of tobacco control laws among heads, teachers, and students of the schools in Kasaragod district.

**Methods:** An institution-based cross-sectional survey was conducted to assess the awareness of selected provisions of the COTPA (Sections 4, 5, 6a, 6b, 21, and 25) among the heads of the institutions of 40 randomly selected high schools and higher secondary schools. Similarly, awareness of the COTPA provisions was assessed among teachers (n = 328) and students (n = 402) using self-administered questionnaires. In addition, schools were surveyed for inspecting the implementation level of selected provisions of the COTPA using an observational checklist.

**Results:** The overall implementation of the COTPA was observed to be 35.5%. The overall self-reported awareness of the COTPA was 13.6%, 25.8%, and 13.1%, among the head of the institutions, teachers, and students, respectively. Government school students had better awareness than that in private schools (42.7% vs 25.2%), although violations of provisions are higher in government schools (OR = 6.0, 95% CI [1.11 to 32.28]).

**Conclusion:** The overall implementation and awareness of the COTPA provisions was low in the schools of Kasaragod district. The implementation will improve if regular inspection of the schools is done. Increasing the frequency of comprehensive structured training programs for the head of the institution, teachers, and students, and coordinated efforts by stakeholders will help in better implementation of the COTPA.

## Keywords

COTPA, Educational institutes, Kasaragod, Kerala, Tobacco control, Implementation

## Introduction

The use of tobacco is the single largest preventable cause of mortality around the world. Globally, 1 in every 9 deaths is attributed to tobacco use.<sup>1</sup> Of the 8 million premature deaths attributed to tobacco use, annually, 1.6 million are nontobacco users who are exposed to secondhand smoke.<sup>2</sup> Low- and middle-income countries contribute to more than 80% of the

<sup>1</sup> Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala, India

### Corresponding Author:

Ganesh Vasudevan, Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala 695011, India.  
E-mail: ganesh.vnvn@gmail.com



disease burden because of tobacco use.<sup>3</sup> Among the 11 member states of the World Health Organization's South East Asia Region, almost half of the deaths occur because of tobacco consumption; India being a major contributor.<sup>4</sup> India experiences a dual burden because of the prevalent use of both forms of tobacco: smoking and smokeless.<sup>5,6</sup> In India, according to the National Family Health Survey-5, of all the adolescents and adults above the age of 15, 38% of men and 8.9% of women use either smokeless or smoked form of tobacco.<sup>5,7</sup>

Reducing the per capita consumption of tobacco has been the prime focus of many countries. The 56th World Health Assembly held in May 2003, adopted a treaty under article 19 of the World Health Organization constitution termed: The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC).<sup>8</sup> The WHO FCTC helped set the foundation for reducing both demand and supply of tobacco products and provided a comprehensive direction for tobacco control policy at all levels.<sup>8</sup> India had developed its tobacco control laws and regulations and passed the Cigarettes and Other Tobacco Products Act (COTPA) in 2003, 2 years before it signed the WHO FCTC.<sup>9,10</sup>

The provisions of the COTPA act include several sections: (a) Section 4, prohibition of smoking in public places; (b) Section 5, prohibition of advertisement of cigarettes and other tobacco products; (c) Section 6, prohibition of the sale of cigarettes or other tobacco products to anyone below the age of 18 years and in a particular area; (d) Section 7, prohibition on trade and commerce in production, supply, and distribution of cigarettes and other tobacco products; (e) Section 21, punishment for smoking in certain places; (f) Section 25, prevention, detention, and place of trial of offences under sections 4 and 6.<sup>10</sup> Despite these legislations, tobacco control in India has proven to be difficult.<sup>11,12</sup> Mere legislations supplemented by poor implementation potentially fail to attain the overall objective— prevention. Thus, evaluating the implementation of legislation is necessary to analyze its effectiveness. According to an amendment in the COTPA, office bearers of various government departments are authorized as implementing officers of the act. These officers are responsible to prevent public smoking.<sup>13–15</sup> One of the prerequisites for the implementation of any law is raising the awareness regarding it among the authorities responsible for implementation. However, scarce data are available regarding the awareness of these implementing officers concerning to the COTPA. In Kerala, the District Development Committee along with Police, Health, Excise, and Educational departments are responsible for monitoring the implementation of the COTPA provisions. Not many studies have been conducted on the awareness of the COTPA in Kerala among its implementing officers.<sup>16</sup> The present study aims at bridging this gap by evaluating the awareness in implementing officers in schools.

Kasaragod is the only tobacco cultivating district of Kerala. 1 in every 6 individuals is involved in *beedi* (slim, hand-rolled, and unfiltered cigarettes) rolling labor in the district.<sup>17,18</sup> A significant part of the population here

still depends on *beedi* rolling as the source of daily wage income.<sup>17</sup> A retrospective analysis of data from North Kerala, from a hospital-based cancer registry suggested that 40% of its cancer patients from Kasaragod had a habit of smoking.<sup>19</sup> A recent finding from a study conducted in Kerala reported the prevalence of tobacco use among high schools and higher secondary schools ranges from 3.1% (at 12–13 years) to 15.1% (at 18 - 19 years).<sup>20</sup> The mean age of the onset of tobacco-use was 14.0 (SD, 2.2) years.<sup>20</sup> Poor implementation with increased exposure might increase the tobacco-use among school students.<sup>20</sup> It thus becomes imperative to assess the implementation of the COTPA at schools in Kerala.

The present study aims at examining the COTPA implementation in high schools and higher secondary schools in Kasaragod district. In addition, the awareness of the COTPA act was assessed among the implementation officer of the COTPA: the head of the institutions (HoIs), the teachers, and the students.<sup>16</sup>

## Material and Methods

### Ethics Approval

The study was approved by the Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala (SCT/IEC/1466/NOVEMBER-2019). Permission to conduct the study in schools was obtained from the Directorate of General Education, Govt. of Kerala. Further permissions were obtained from the HoI of each of the randomly selected schools to conduct the study. Written informed consent was obtained from all the study participants. Written assent from the students was obtained after obtaining written consent from their parents.

### Study Design

The data collection of the study was done from December 2019 to February 2020.

The study consisted of 2 parts. The first part used a pretested questionnaire for a cross-sectional study to assess awareness of the COTPA among the HoIs, teachers, and students in 40 randomly selected high schools and higher secondary schools of Kasaragod. The second part used a structured observational checklist to assess the implementation status of the COTPA act (Annexure I in Supplemental Material online).<sup>21</sup>

According to the second edition of “Assessing Compliance with Smoke-Free Laws” Campaign for Tobacco-Free Kids, Johns Hopkins Bloomberg School of Public Health, and the International Union Against Tuberculosis & Lung Disease, the minimum sample size recommended for a total of 101 to 175 locations available to be sampled is, 50.<sup>22</sup> However, because of constraints related to time and

resources, a sample size of  $N = 40$  schools was considered pragmatically. The total number of high schools and higher secondary schools in Kasaragod district is 146.<sup>23</sup> Of these,  $N = 40$  were randomly selected by using probability proportion to size sampling. The HoI consenting to participate in the study were interviewed.

In absence of existing literature on the awareness among school teachers regarding tobacco control laws, the sample size of teachers was calculated assuming a 50% prevalence of the COTPA-related awareness among teachers. The estimated sample size was 401 and was rounded to 400. Based on a previous study on awareness of tobacco control laws among adolescents, the present study anticipated a 50% prevalence.<sup>24</sup> According to this, the sample size of students was calculated as 400.

Data was collected from students who were in either the 10th, 11th, or 12th grades of selected schools irrespective of their age. Demographic details like age, gender, socioeconomic status, and students' involvement in extracurricular activities were collected. The measure of socio-economic status was the color of the ration card, an official document given by the state government under the public distribution system. The card's color is based on the annual income of the household.<sup>25</sup> There were 17 questions to assess the overall awareness of respondents related to 7 provisions of the COTPA. 2 questions each was used for assessing the awareness about the provisions which explains locations where smoking is banned (Sec.4),

punishments for violations of the act (Sec 21), complaining authority (Sec 25), and awareness of tobacco advertisements (Sec 5). 5 questions for the provision about minimum age for tobacco purchase (Sec 6a), 1 question regarding the awareness of the minimum age limit were for tobacco sale (Sec 6a), and lastly 3 questions about permissible distance for tobacco sale from school compound (Sec 6b) were also included in the questionnaire. Right answers for each provision were given a score of 1; the total awareness score from each provision was made separately and normalized to 1. The maximum score 1 was categorized as "aware of the provision" and all scores below 1 were categorized as "unaware of the provisions."

A total score for the COTPA-related awareness was made by combining the proportionate scores of all 7 provisions and normalized to ensure equal weightage to each question. Then the COTPA-related awareness score of the HoIs, teachers, and students was categorized based on median values as "COTPA-related awareness score above median" and others as "COTPA-related awareness below median."

Implementation and violation of selected provisions of the COTPA among schools were assessed by the primary investigator (PI) during the first visit to the school after seeking permission from the HoI. These observations are highlighted in Supplementary Table 1.

Scores were allotted for each of the 18 observations. The scores were allotted in such a way that, for every positive observation a score of + 1 was given. Scores of observed

**Table 1.** Demographic Characteristics of Participant.

Variable	Categories	HOIs n (%) N = 40	Teachers n (%) N = 328	Students n (%) N = 402
Age	Mean (SD)	49.82 (6.02)	40.73 (7.42)	16.08 (1.02)
	Range	34-56	25-55	14-18
Gender	Male	24 (60)	131 (39.9)	224 (55.7)
	Female	16 (40)	197 (60.1)	178 (44.3)
Location	Urban	5 (12.5)	67 (20.4)	52 (12.9)
	Rural	35 (87.5)	261 (79.6)	350 (87.1)
Type of institution	Govt.	26 (65)	248 (75.6)	279 (69.4)
	Private	14 (35)	80 (24.4)	123 (30.6)
Section	HS	12 (30)	151 (46.0)	90 (22.4)
	HSS	28 (70)	177 (54.0)	312 (77.6)
Years of experience	1 year	18 (45)	44 (13.4)	NA
	2 – 5 years	18 (45)	63 (19.2)	
	>5 years	4 (10)	221 (67.4)	
Ration card* (annual income category in rupees)	White (>1 lakh)	NA	NA	29 (7.2)
	Blue (50,000 to 1 lakh)			192 (47.8)
	Yellow (25,000 to 50,000)			16 (3.98)
	Pink (<25,000)			165 (41.02)
Extracurricular activities	School clubs	NA	NA	76 (18.91)
	NSS			86 (21.39)
	NCC			18 (4.48)
	SPC			28 (6.97)
	Others			20 (4.98)
	No activity			187 (46.52)

**Note:** An official document given by the state government under public distribution system and card's colour is based on their socioeconomic status.

**Abbreviations:** HOI, Head of Institutions; NA, Not Applicable; NCC, National Cadet Corps; NSS, National Service Scheme; Rs., rupees; SPC, Student Police Cadet; SES, Socio Economic Status.

COTPA implementation and violation was normalised to 1 to ensure equal weightage for all the domains. The score was categorized based on median values as “implementation above median”, “implementation below median”, “violation score above median” and “violation score below median.” Evidence of past use was measured using a checklist (Annexure 1).<sup>21</sup> The PI observed evidence of smoking inside the compound by assessing smell, ashes, smoking aids like cigarette/beedi bud inside and outside the school compound, and tobacco sale or use within 100 yards of the school.<sup>21</sup>

## Results

More than 70% of the schools were higher secondary schools (n = 28). Most schools were government schools (n = 26). The private schools (n = 14) included both unaided and government-aided private schools. Further details on the characteristics of school and study participants are given in the table below (Table 1).

A majority of the participants reported that they had never used tobacco products (HoI: 77.5%, Teachers: 88.7%, and Students: 93%). Approximately half of the students reported that they had seen someone use tobacco on the school premises. The details of the status of self-reported tobacco use by the participants are given in Table 2.

### Awareness of Selected COTPA Provisions of Hols, Students, and Teachers

Overall, 13.6% HoIs were aware of the provisions of the COTPA ie the HoIs who scored above the median score (range is 2.5% - 27.5%). A majority of the HoIs (n = 11; 27.5%), were aware of the provision “Minimum age for purchasing tobacco products.” Around 2.5% (n = 1) were aware of the “complaining authority” responsible if a violation of the COTPA provision occurred in a public space. The total awareness score of teachers ie teachers who scored above the median score was 25.8% (range is 0.6% - 43.6%). The provisions that maximum teachers were aware of were “minimum permissible distance for the sale of tobacco from school compound” (43.6%) and “minimum age limit required for the purchase of tobacco products” (43.3%). The provision with the least awareness

was “restrictions on tobacco promotional advertisements” (0.6%). A significant difference was observed in the awareness of the provision of “permissible distance for tobacco sale from school compound” between government and private school teachers with ( $P = .006$ ) government school teachers having a higher level of awareness (Table 3). The total awareness score of students, ie students who scored above the median score, was 13.1% (range 1.2% - 37.3%). The student group showed the highest awareness of the provisions related to “locations of smoking ban” (37.3%). The provision with the least awareness among students was “punishments for violation” (1.2%). Based on the type of school management, government vs. private, a significant difference was observed on provisions such as “locations of the smoking ban” with an OR of 2.20, 95% CI [1.37 to 3.53] ( $\chi^2 = 10.37$ ,  $df = 1$ ,  $P = .001$ ), “complaining authority” with an OR of 0.1, 95% CI [0.001 to 0.735] ( $\chi^2 = 5.65$ ,  $df = 1$ ,  $P = .011$ ), “restrictions on tobacco promotional advertisements” with an OR of 1.93, 95% CI [1.12 to 3.33] ( $\chi^2 = 5.07$ ,  $df = 1$ ,  $P = .022$ ), and “permissible distance for tobacco sale from school compound” with an OR of 0.3487, 95% CI [0.1945 to 0.6250] ( $\chi^2 = 12.140$ ,  $df = 1$ ,  $P = .001$ ). Table 3 gives the complete details of awareness scores among HoIs, teachers, and students of government and private schools.

### Implementation of Various Provisions of the COTPA

The observed overall implementation score across 40 schools was 35.5% (range 7.5% - 57.5%). Some provisions were observed to be better implemented at government schools as compared to private schools eg: “Signage at the main entrance” with an OR of 5.87, 95% CI [1.31-26.33] ( $\chi^2 = 5.87$ ,  $df = 1$ ,  $P = .02$ ) was implemented better in government than private schools. Further details are given in Table 4.

### Violations of Various Provisions of the COTPA

The overall violation observed across all the 40 schools included in the study was 28.3%. Interestingly, violations of provisions were observed to be more in government schools than in private ones with an of OR of 6.0 and 95% CI [1.11 to

**Table 2.** Self-reported Status of Tobacco Use or Being Used in the School Premises.

Self-Reported Tobacco Use	Categories	HOIs n (%) N = 40	Teachers n (%) N = 328	Students n (%) N = 402
Current status	Ever used	9 (22.5)	37 (11.3)	28 (6.97)
	Never used	31 (77.5)	291 (88.7)	374 (93.03)
Use in school premises	Have seen somebody using the tobacco in the premises	4 (10)	71 (21.6)	175 (43.5)
	Haven't seen but aware of its use	2 (5)	53 (16.2)	18 (4.5)
	Never seen nor aware	34 (85)	204 (62.2)	209 (52)

**Abbreviation:** HOI, Head of Institutions.

**Table 3.** Awareness on Various Provisions of the COTPA (Government vs. Private Schools).

Section	Aware	HOIs (N = 40)			Teachers (N = 328)			Students (N=402)		
		Govt. (n = 26) n (%)	Pvt. <sup>^</sup> (n = 14) n (%)	P Value	Govt. (n = 248) n (%)	Pvt. <sup>^</sup> (n = 80) n (%)	P Value	Govt. (n = 279) n (%)	Pvt (n = 123) n (%)	P Value
Locations of smoking ban (Sec 4)	Yes	5 (19.2)	3 (21.4)	1*	46 (18.5)	23 (28.8)	.59 <sup>#</sup>	119 (42.7)	31 (25.2)	.001 <sup>#</sup>
	No	21 (80.8)	11 (78.6)		202 (81.5)	57 (71.2)		160 (57.3)	92 (74.8)	
Punishment for violation (Sec 21)	Yes	2 (7.7)	0	.53*	74 (29.8)	15 (18.8)	.6 <sup>#</sup>	3 (1.1)	2 (1.6)	.64*
	No	24 (92.3)	14 (100)		174 (70.2)	65 (81.2)		276 (98.9)	121 (98.4)	
Complaining authority (Sec 25)	Yes	0	1 (7.1)	.35*	53 (21.4)	16 (20)	.87 <sup>#</sup>	1 (0.4)	5 (4.1)	.01*
	No	26 (100)	13 (92.9)		195 (78.6)	64 (80)		278 (99.6)	118 (95.9)	
Minimum age limit for tobacco purchase (Sec 6a)	Yes	6 (23.1)	5 (35.7)	.46*	111 (44.8)	31 (38.8)	.37 <sup>#</sup>	22 (7.9)	10 (8.1)	1 <sup>#</sup>
	No	20 (76.9)	9 (64.3)		137 (55.2)	49 (61.2)		257 (92.1)	113 (91.9)	
Minimum age limit for tobacco sale (Sec 6a)	Yes	3 (11.5)	4 (28.6)	.21*	63 (25.4)	15 (18.8)	.23 <sup>#</sup>	16 (5.7)	10 (8.1)	.38 <sup>#</sup>
	No	23 (88.5)	10 (71.4)		185 (74.6)	65 (81.2)		263 (94.3)	113 (91.9)	
Restrictions on promotional tobacco advertisements (Sec 5)	Yes	2 (7.7)	1 (7.1)	1*	2 (0.8)	0	1*	76 (27.2)	20 (16.3)	.02 <sup>#</sup>
	No	24 (92.3)	13 (92.9)		246 (99.2)	80 (100)		203 (72.8)	103 (83.7)	
Permissible distance for tobacco sale from school compound (Sec 6b)	Yes	3 (11.5)	3 (21.4)	.65*	119 (48)	24 (30)	<.006 <sup>#</sup>	26 (9.3)	28 (22.8)	<.001 <sup>#</sup>
	No	23 (88.5)	11 (78.6)		129 (52)	56 (70)		253 (90.7)	95 (77.2)	

**Abbreviations:** Govt., government; Pvt., private. #chi-square test, df (1). \*Fisher exact test.

**Table 4.** Observed Implementation of Selected COTPA Provision.

Provision		Total (N= 40) n (%)	Based on the Type of Management		P Value
			Govt. (n = 26) n (%)	Pvt. (n = 14) n (%)	
"No Smoking" signage	Yes	23 (57.5)	17 (65.4)	6 (42.9)	.19 <sup>#</sup>
	No	17 (42.5)	9 (34.6)	8 (57.1)	
Signage at main entrance	Yes	19 (47.5)	16 (61.5)	3 (21.4)	.02 <sup>#</sup>
	No	21 (52.5)	10 (38.5)	11 (78.6)	
Signage at all entrances	Yes	4 (10)	2 (7.7)	2 (14.3)	.60*
	No	36 (90)	24 (92.3)	12 (85.7)	
Signage at other conspicuous spaces	Yes	6 (15)	5 (19.2)	1 (7.1)	.39*
	No	34 (85)	21 (80.8)	13 (92.9)	
Content as per norms	Yes	16 (40)	13 (50)	3 (21.4)	.10 <sup>#</sup>
	No	24 (60)	13 (50)	11 (78.6)	
Design as per norms	Yes	14 (35)	12 (46.2)	2 (14.3)	.08*
	No	26 (65)	14 (53.8)	12 (85.7)	
Language as per norms	Yes	22 (55)	17 (65.4)	5 (35.7)	.10 <sup>#</sup>
	No	18 (45)	9 (34.6)	9 (64.3)	
Name and phone no. of reporting officer	Yes	3 (7.5)	3 (11.5)	0 (0)	.53*
	No	37 (92.5)	23 (88.5)	14 (100)	
Signage on "Ban on Tobacco Sale" at entrance	Yes	21 (52.5)	15 (57.7)	6 (42.9)	.51 <sup>#</sup>
	No	19 (47.5)	11 (42.3)	8 (57.1)	

**Abbreviations:** Govt., government; Pvt., private. #chi-square test, df (1). \*Fisher exact test.

32.28] ( $\chi^2 = 4.952$ ,  $df = 1$ ,  $P = .040$ ). Further details related to violations of the selected 9 COTPA provisions amongst government and private schools are given in Table 5.

## Discussion

This study was conducted to assess the level of implementation of various provisions of the COTPA in the schools of

Kasaragod district and to gauge the awareness of the COTPA among the HoIs, teachers, and students of these institutions. The overall implementation was low (35.5%) across the schools. The overall awareness scores among students in government schools of the COTPA implementation than the private schools (42.7% and 25.2%, respectively). A cross-sectional survey on monitoring the smoke-free laws in educational institutions of Chennai and Bengaluru observed low overall compliance with the COTPA among the schools.<sup>26,27</sup> Only 2.8% of 287 schools in Chennai

**Table 5.** Observed Violations of Selected COTPA Provision.

		Total (N = 40) n (%)	Based on the Type of Management			P Value
			Govt. (n = 26) n (%)	Pvt. (n = 14)	n (%)	
Smoking inside the compound	Yes	1 (2.5)	1 (3.85)	0 (0)		1*
	No	39 (97.5)	25 (96.15)	14 (100)		
Evidence of recent smoking–smell	Yes	2 (5)	2 (7.7)	0 (0)		.53*
	No	38 (95)	24 (92.3)	14 (100)		
Evidence of recent smoking–ashes	Yes	0 (0)	0 (0)	0 (0)		–
	No	40 (100)	26 (100)	14 (100)		
Evidence of past use	Yes	16 (40)	14 (53.8)	2 (14.3)		.02#
	No	24 (60)	12 (46.2)	12 (85.7)		
Smoking aids	Yes	3 (7.5)	3 (11.5)	0 (0)		.54*
	No	37 (92.5)	23 (88.5)	14 (100)		
Tobacco sale within 100 yards	Yes	28 (70)	19 (73.1)	9 (64.3)		.72*
	No	12 (30)	7 (26.6)	5 (35.7)		
Sale of individual units	Yes	27 (67.5)	18 (69.2)	9 (64.3)		1*
	No	13 (32.5)	8 (30.8)	5 (35.7)		
Tobacco use within 100 yards	Yes	22 (55)	12 (46.2)	10 (71.4)		.19#
	No	18 (45)	14 (53.8)	4 (28.6)		
Smoking aids outside	Yes	3 (7.5)	3 (11.5)	0 (0)		.54*
	No	37 (92.5)	23 (88.5)	14 (100)		

**Abbreviations:** Govt., government; Pvt., private. #chi-square test, df (1). \*Fisher exact test.

and 16.7% of the schools in a study from Bengaluru (n = 19) had smoking prohibition signage.<sup>26,27</sup> Signage on the ban of tobacco sale within 100 yards of the institution is a critical provision of COTPA preventing the use of tobacco products among students. The current study observed that “No Smoking” signage (57.5%) is implemented strictly on the premises of the schools. A study across 4 districts from different regions of India showed that 55% of the 1408 schools complied with the smoking prohibition signage.<sup>28</sup> Importantly, Ernakulam in Kerala was one of the district included in the study and revealed high compliance with the smoking prohibition signage (79.8%). This is higher than what is observed in the current study.<sup>28</sup> An observational field study in more than 2000 educational institutes from Punjab showed high compliance with smoking prohibition signage (84%).<sup>21</sup> In our study, the signage displayed at the main entrance of the school was observed in 47% of the schools which was substantially low as compared to the 80% implemented in educational institutes of Punjab.<sup>21</sup> Contrary to this, less than 1% had signage on the ban of tobacco sale within 100 yards of the institutions in Chennai.<sup>26</sup> In our study, the sale of tobacco within 100 yards of the schools was observed in 70% of the schools similar to previous studies in Chennai and Bengaluru.<sup>24,26</sup> These observed variations may be attributed to the type of educational institutes which were included in the studies. Other possible reasons for the variations may be the geographic and cultural variation in tobacco usage. The difference in the sample size and density of the population of the study settings also could be the reasons for variations. Changes in the observation criteria may also have contributed to the observed differences in findings. The latest report of the COTPA implementation review of the District Development Committee meeting which is retrieved from the official website of the Kasaragod government administration states that no

violations of the COTPA provisions have been reported from the schools of the district and the recommendations are implemented in all the institutions.<sup>16</sup> We report a lower implementation of the COTPA in selected schools of Kasaragod district. There can be many reasons for the observed difference; one could be that the present study is done after almost 2 years of the last online publically available report. There are chances for misplacing, missing, or damage of signage during this period. Importantly, there may also be a difference in assessing implementation of the COTPA provisions which we were unable to access. The overall awareness scores on the COTPA provisions for the HoIs, teachers, and students were (low 13.6%, 25.8%, and 13.1%, respectively). However, this is comparable to the study conducted in 2004 in West Bengal where the awareness of the existence of tobacco control laws among school personnel was 20%.<sup>29</sup> The study conducted in Bengaluru revealed that 25% of the HoIs were aware of the complaining authorities for the COTPA provisions in their institutions whereas this awareness was only 2.5% in the present study. These variations in the level of awareness may be because of the difference in the tool which was used for the interview schedule. The average of awareness of all the seven provisions among government schools is 13.5% among government schools, 12.3% in private; 13.3% among rural schools, 11.8% in urban; 13% among male students, 13.3% among female students. Maximum awareness among students was of the locations where tobacco smoking is banned (37.3%) though they were at least aware of the punishment (1.2%). The prevalence of current tobacco use among students was 2% while ever usage prevalence was 7% in the present study which is similar to the findings from a previous study from Ernakulam.<sup>19</sup> Peer influence and curiosity are common reasons to initiate tobacco use among young students. Lack of

awareness, coupled with peer pressure and availability of tobacco products attract adolescents to tobacco as reflected in the age of initiation in various studies including the one done in Kerala.<sup>19</sup> In agreement, more than 70% of students who ever used tobacco had tobacco-using friends out of which almost 60% were friends who study in the same school (30.8% of males and 10.1% of females).

The implementation of the COTPA provision prevents the sale of any kind of tobacco products to a person less than 18 years of age. Around 17.4% of students have reported that they have purchased tobacco products directly from the shops; this is slightly higher than the self-purchase of tobacco reported by students of Mangalore (14.3%).<sup>30</sup> In the study from Mangalore the parental usage of tobacco was similar to the present study (18.7% vs 19.9%).<sup>30</sup> Mangalore is geographically very close to Kasaragod and hence have sociocultural, similarities. 1 student out of every 4 male students had ever purchased tobacco products himself while it was less than one out of every ten female students. The numbers were 6 out of every 10 students in 2006 and 7 out of every 10 students in 2009 according to a previous study from India.<sup>31</sup>

### Strengths and Limitations of the Study

The present study is unique in the sense that it not only assessed the implementation of the COTPA provisions in schools of Kasaragod— a district known to be a tobacco cultivating area since historic times, but also gauged the awareness among implementers (the HoIs) and facilitators (teachers and students).

One of the primary limitations of the study is its sample size. According to the recommendations of “Assessing Compliance with Smoke-Free Laws,” the minimum sample size when 101 to 175 locations are available to be sampled is 50 (Assessing Compliance with Smoke-Free Laws, 2014). However, we were able to include only 40 schools in the study because of limited duration and resources. Secondly, the majority of the schools that were included in the study were from rural areas of the district. Thus, the findings may apply to districts with a higher representation of schools from the rural sector.

### Conclusion

Based on the results of the current study, it can be concluded that the implementation level of selected COTPA provisions in high schools and higher secondary schools of Kasaragod is low and needs to be improved. One of the recommendations for improved implementation could be conducting regular inspections to assess the COTPA provisions in the schools of the district. Increasing the frequency of comprehensive structured training programs for the HoI, teachers and students will also help in better implementation of the

COTPA provisions, and also help improve awareness about the act.

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### Supplemental Material

Supplemental material for this article is available online.

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