

To Evaluate the Knowledge and Attitude Regarding the Practice of Tobacco and COTPA Law (Cigarette and Other Tobacco Product Act, 2003) among the School Teachers in Bhopal City - A Cross Sectional Questionnaire Survey

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Received: November 08, 2024; **Published:** November 28, 2024

Abstract

Background: Children and adolescents are highly vulnerable to initiating tobacco use, which can lead to lifelong addiction and health risks. School teachers play a crucial role in educating students about the hazards of tobacco and enforcing school policies. This study aimed to assess the knowledge and attitudes of school teachers in Bhopal regarding tobacco use and the COTPA law (Cigarette and Other Tobacco Products Act, 2003).

Methods: A cross-sectional survey conducted on 400 school teachers in Bhopal using a self-administered questionnaire to assess their knowledge and attitudes toward tobacco hazards and the COTPA law.

Results: Only 8.3% of teachers were aware of the COTPA law, and 66.8% were unaware of penalties for violations. Most teachers (68.5%) did not know their school's policy on tobacco prohibition. However, 75% organized anti-tobacco awareness activities annually, and 79.3% informed students about tobacco's harmful impacts. A majority (61.3%) understood the adverse health effects of tobacco use.

Conclusion: The study reveals inadequate knowledge among teachers about the COTPA law but a positive attitude toward its implementation and awareness about tobacco's health risks. Educating both teachers and students is crucial to prevent future tobacco use. Government efforts are needed to enforce COTPA effectively.

Keywords: Attitude; COTPA; Knowledge; Teacher; School Children; Tobacco

Abbreviation

COTPA: Cigarette and Other Tobacco Product Act

Introduction

Education is not only for development of individual but it also create the foundation of a future [1]. School personnel plays an important role in upbringing of students. Children are like wet clay ball, their mind can be mould into the desired personality. Good habit formed at early stage makes a great difference in adulthood [2]. It is generally believed that habits formed in childhood carry over until lifespan, thus it is crucial to develop positive habits that are safe for others and helpful to themselves.

Adolescence is a part of children's development when they often want to try new things and experiment with life. They look up to their parents and elders and try to emulate their behaviour, attitude, way of talking and habits. If their behaviour gives them a wrong message, then kids follow the same and those acquired habits are difficult to get changed. Curiosity may increase teens to experiment with these tobacco products too. Significant influence on children often comes from their peers and friends who are consuming tobacco or having any pernicious habits. Smokers typically have friends who are also smokers [17].

India ranks as the world's second-largest consumer of tobacco, following China. The usage of tobacco among adolescents aged 15 and above stands at 35%. Among males, the prevalence of tobacco use is 48%, while among females, it is 20% [5]. In 2009, the Global Youth Tobacco Survey (GYTS) revealed that 14.6% of children aged 13 to 15 were consuming tobacco products in India [18]. According to data from the Centre for Disease Control and Prevention, over 14% of children experiment with cigarettes before 12 years old [6]. This may turn out to be risky and may lead to addiction of the tobacco products in them. Trying tobacco products is a global issue which is causing serious health effects. These habits have deleterious effect on overall well-being of adolescent which can hamper them to bloom to their full potential [1].

Tobacco use is an epidemic that can and must be confronted and stopped. Almost all the countries and the WHO have policies and laws implemented to curb this global epidemic. In India, Cigarettes and other Tobacco products Act (COTPA) 2003 was formed and implemented from October 2008. This law intends to prevent the present and future generations from the adverse effects of tobacco use by forestalling youth [3].

The COTPA law encompasses several regulations like: banning smoking in public places, prohibiting advertisements of tobacco products, restricting the sale of tobacco to minors under 18 years and within 100 yards of educational institutions, and mandating pictorial health warnings on tobacco product packaging. Effective implementation of these laws and raising awareness among vulnerable populations are crucial.

In Madhya Pradesh, tobacco use among children is higher for this early intervention is crucial. Education is the most effective way to directly reach the student population through various means. Schools and teachers play a crucial role in shaping children's attitudes and behaviours, making them key influencers in raising awareness about the hazards of tobacco consumption. As primary sources of education, schools provide a platform for early intervention, where students can learn about the health risks of smoking and other forms of tobacco use. Teacher's knowledge and awareness of tobacco use and the COTPA law may directly influence students. Teachers, as trusted figures, can guide students through discussions, integrate anti-tobacco education into the curriculum, and foster a supportive environment that encourages healthy choices. By reinforcing positive behaviour and addressing peer pressure, schools and educators can significantly reduce the likelihood of tobacco initiation among young people.

There are few studies in the literature concerning the risks of tobacco use and awareness of the COTPA law among Indian teachers. According to Global Adult Tobacco Survey-2 (India 2016-2017), 28.6% (266.8 million) of adults in India are consuming tobacco in various forms. In Madhya Pradesh, the overall tobacco usage rate stands at 34.2%. Among adolescents, the usage rate is 3.9%, with 9.6% of boys and 7.4% of girls being tobacco users [19]. Given this alarming rate of tobacco use among adolescents in Madhya Pradesh, it is crucial to provide them with knowledge and raise awareness about the hazards of tobacco consumption. In addition to health risks, educating young people about the Cigarettes and Other Tobacco Products Act (COTPA) is essential. This law aims to regulate the use of tobacco products and protect the public from exposure, especially minors. By implementing targeted awareness programs, we can help reduce tobacco use and promote healthier lifestyles among adolescents in the state.

There are limited research on the knowledge, attitudes, awareness, and perceived barriers related to tobacco use in the schools of Bhopal city. Therefore, this study was conducted to assess the implementation of the COTPA Act and tobacco practices among school teachers in Bhopal, Madhya Pradesh.

Materials and Methods

A cross-sectional questionnaire-based study was conducted at Government and private primary and secondary school in Bhopal city, Madhya Pradesh. Ethical clearance was obtained from Institutional Ethics committee of Rishiraj college of Dental Sciences and Research Centre, Bhopal (Madhya Pradesh). And permission to conduct the survey in various school was granted by District Education Officer (DEO) Bhopal. List of government and private school of Bhopal city were obtained from District Education Office. The Bhopal education system is divided into two blocks, and one of these blocks, (Phanda block) was randomly selected for the study. Government and private school within this block was also randomly selected for further study.

This study included a total sample size of 400 teachers, 200 from government schools and 200 from private schools in Bhopal. Informed consent was obtained. Questionnaire was given to the teachers who were willing to participate in the survey. The questionnaire consisted of 26 questions based on knowledge and attitude regarding the tobacco use and COTPA law. Questionnaire was made in English as well as in regional language Hindi. Google form was made and questionnaire was circulated using the link. Data was collected and statically analysed. As part of the awareness sessions, audio-visual aids were used to explain the COTPA law and the dangers of tobacco in various schools to both teachers and students. After the sessions, educational pamphlets and posters were distributed to reinforce the information. The questionnaire was redistributed to teachers to assess the effectiveness of the awareness session and their understanding of the COTPA law and tobacco hazards. COTPA act and Anti-tobacco awareness session was taken in the various schools for teachers. Data was collected, tabulated and statistically analysed.

Results

This study includes the 400 school teachers with an average age of 40.60 years. The participants included 51.5% males and 48.5% females. Regarding education, 55.8% were graduates, 33.5% were postgraduates, and 10.8% held diplomas. 50% participants were working in private school and 50% were working in government. Most participants (59.5%) were primary school teachers, 25% were high school teachers, and 15.5% were from higher secondary schools (Table 1).

In the current study, 54.5% of government school teachers and 49.5% of private school teachers acknowledged that tobacco products have an impact on general health. 96.5% of government school instructors and 96.6% of private school teachers agreed that smoking

Demographic characteristics		n (%)
Mean age (Mean ± SD)	40.60 ± 8.65	
Gender	Male	206 (51.5%)
	Female	194 (48.5%)
Education level	Post Graduate	134 (33.5%)
	Graduate	223 (55.8%)
	Diploma	43 (10.8%)
Type of School	Government	200 (50%)
	Private	200 (50%)
Assigned Class	Primary	238 (59.5%)
	High	100 (25.0%)
	Higher Secondary	62 (15.5%)
Total	400 (100%)	

Table 1: Demographic distribution of study participants (n = 400).

SD: Standard Deviation, n= Number of Subjects.

causes cancer. 64% of government school teachers and 58.5% of private school teachers agreed that tobacco use affects dental health. 52.5% of government teachers and 31% of private teachers were aware of the legal distance from schools where selling tobacco products is prohibited, showing a significant difference. Only 8.5% of government and 8% of private school teachers knew about the COTPA law banning tobacco use in schools. Additionally, 15.5% of government and 17% of private teachers knew about the penalties for violating the law (Table 2 and figure 1).

Questions regarding Knowledge	Responses	Total (n=400)	Comparison between two groups		
			Government School Teachers (n=200)	Private School Teachers (n=200)	P-value
Can tobacco product consumption affect the general health of a person?	Yes	208 (52.0%)	109 (54.5%)	99 (49.5%)	0.317
	No	192 (48.0%)	91 (45.5%)	101 (50.5%)	
Can tobacco product consumption cause cancer?	Yes	383 (95.8%)	191 (95.5%)	192 (96.0%)	0.804
	No	17 (4.3%)	9 (4.5%)	8 (4.0%)	
Can tobacco product consumption affect the oral health?	Yes	245 (61.3%)	128 (64.0%)	117 (58.5%)	0.259
	No	155 (38.8%)	72 (36.0%)	83 (41.5%)	
Do you know how far from the school area the sale of tobacco is prohibited?	100 yard	167 (41.8%)	105 (52.5%)	62 (31.0%)	0.000*
	200 yard	58 (14.5%)	44 (22.0%)	14 (7.0%)	
	500 yard	109 (27.3%)	33 (16.5%)	76 (38.0%)	
	Don't know	66 (16.5%)	18 (9.0%)	48 (24.0%)	
Do you know about COTPA law (cigarette and other tobacco product act,2003)	Yes	33 (8.3%)	17 (8.5%)	16 (8.0%)	0.856
	No	367 (91.8%)	183 (91.5%)	184 (92.0%)	

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If yes, do you know about penalty for violation of COTPA law	Fine of Rs 200 - Rs 5000	65 (16.3%)	31 (15.5%)	34 (17.0%)	0.094
	Fine with imprisonment	62 (15.5%)	32 (16.0%)	30 (15.0%)	
	No penalty	6 (1.5%)	0 (0.0%)	6 (3.0%)	
	Don't know	267 (66.8%)	137 (68.5%)	130 (65.0%)	
Are you aware of school policy on prohibition of tobacco product?	Yes	126 (31.5%)	65 (32.5%)	61 (30.5%)	0.667
	No	274 (68.5%)	135 (67.5%)	139 (69.5%)	

Table 2: Knowledge regarding tobacco use and COTPA law among government and private school teachers.

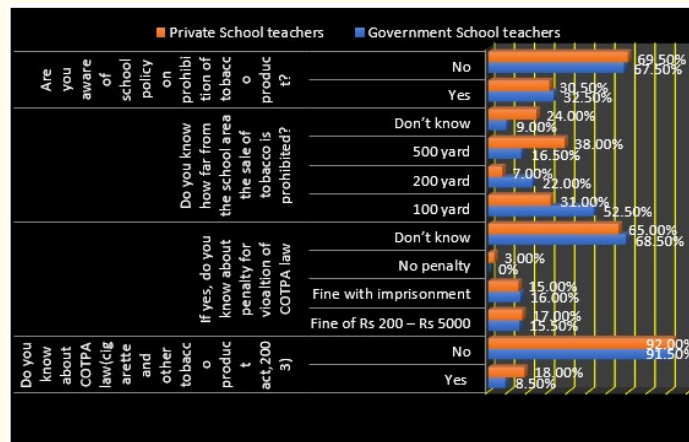


Figure 1: Comparison of knowledge regarding COTPA law among government and private school teachers.

In terms of attitudes, 94.5% of public school teachers and 97% of private school teachers agreed that selling tobacco to minors should be banned. Additionally, 92% of government school teachers and 95% of private school teachers agreed that tobacco use harms society. Most teachers (92.3%) expressed a desire to quit smoking. Teachers report that the main causes of tobacco use among teenagers are anxiety, sadness, peer pressure, lack of parental supervision, and family’s socioeconomic situation (Table 3 and figure 2).

Questions regarding attitude	Responses	Total (n=400)	Comparison between two groups		
			Government School Teachers (n=200)	Private School Teachers (n=200)	P-value
Can tobacco product selling by minors or to minor (below 18 years old) is strictly prohibited?	Yes	383 (95.8%)	189 (94.5%)	194 (97.0%)	0.215
	No	17 (4.3%)	11 (5.5%)	6 (3.0%)	

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Do you think can tobacco product consumption be beneficial for the society?	Yes	26 (6.5%)	16 (8.0%)	10 (5.0%)	0.278
	No	374 (93.5%)	184 (92.0%)	190 (95.0%)	
If you consume tobacco product, will you prefer to quit?	Yes	369 (92.3%)	184 (92.0%)	185 (92.5%)	0.852
	No	31 (7.8%)	16 (8.0%)	15 (7.5%)	

Table 3: Attitude regarding tobacco use and COTPA law among government and private school teachers.

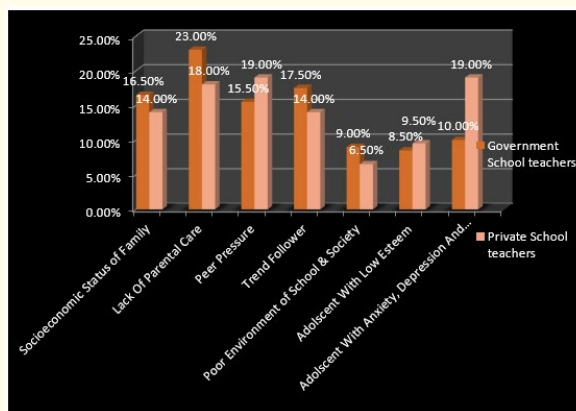


Figure 2: Reason for tobacco consumption in adolescents according to government and private school teachers.

Approximately 18% of government and 16% of private school teachers reported using tobacco products, with smokeless tobacco being the most commonly used at 19%. The frequency of use was two to four times per day. In this study, 68.5% of government school teachers and 73.5% of private school teachers recommended visiting a dentist for oral health issues. Additionally, 78.5% of government employees and 71.5% of private educators reported that their school has a display board prohibiting tobacco use. 71.8% of teachers reported that there were no tobacco stores located near the school. About 68.3% of instructors had planned a tobacco awareness program, and 79.3% regularly educate students about the negative effects of tobacco use (Table 4 and figure 3). When comparing the knowledge and attitudes regarding tobacco use and the COTPA law between government and private school teachers, the results were almost identical, with no significant difference found in their knowledge (Figure 4).

Questions regarding Practice	Responses	Total (n=400)	Comparison between two groups		P-value
			Government School Teachers (n=200)	Private School Teachers (n=200)	
Do you consume tobacco products?	Yes	68 (17.0%)	36 (18.0%)	32 (16.0%)	0.594
	No	332 (83.0%)	164 (82.0%)	168 (84.0%)	
Do you advice to prefer dentist for oral health problem?	Yes	284 (71.0%)	137 (68.5%)	147 (73.5%)	0.271
	No	116 (29.0%)	63 (31.5%)	53 (26.5%)	

Is there any board displaying the strict prohibition on tobacco product in your school area?	Yes	300 (75.0%)	157 (78.5%)	143 (71.5%)	0.106
	No	100 (25.0%)	43 (21.5%)	57 (28.5%)	
Is there any shop selling tobacco products near your school area?	Yes	113 (28.2%)	77 (38.5%)	36 (18.0%)	0.000*
	No	287 (71.8%)	123 (61.5%)	164 (82.0%)	
Have you ever organized any anti-tobacco awareness program in your school for students?	Yes	273 (68.3%)	131 (65.5%)	142 (71.0%)	0.237
	No	127 (31.8%)	69 (34.5%)	58 (29.0%)	
Do you teach in any of your classes about the harmful effect of tobacco products?	Yes	317 (79.3%)	151 (75.5%)	166 (83.0%)	0.064
	No	83 (20.8%)	49 (24.5%)	34 (17.0%)	

Table 4: Practice regarding tobacco use and COTPA law among government and private school teachers.

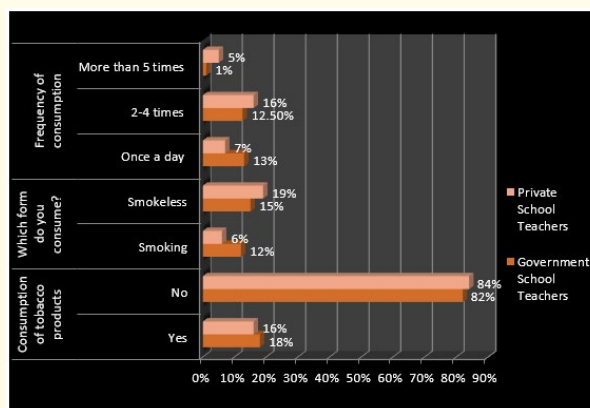


Figure 3: Frequency of tobacco use among government and private school teachers.

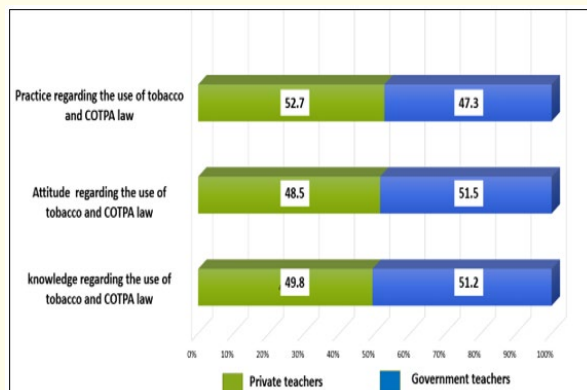


Figure 4: Comparison of knowledge, attitude and practice of tobacco use and COTPA law among the Government and Private school teachers.

Before the awareness session, only 8.3% of teachers knew and only 16.2% teachers were aware about the COTPA law. After the session, this knowledge increased sharply to 97.3%, with awareness to 95.9% (Table 5).

Total (n= 400)	Knowledge of Government and Private School Teachers (n=400)	Awareness of Government and Private School Teachers (n=400)
Before taking an awareness session	33 (8.3%)	64 (16.2%)
After taking an awareness session	389 (97.3%)	384 (95.9%)

Table 5: Comparison of the teacher's knowledge and awareness of the COPTA law before and after attending an awareness session.

Discussion

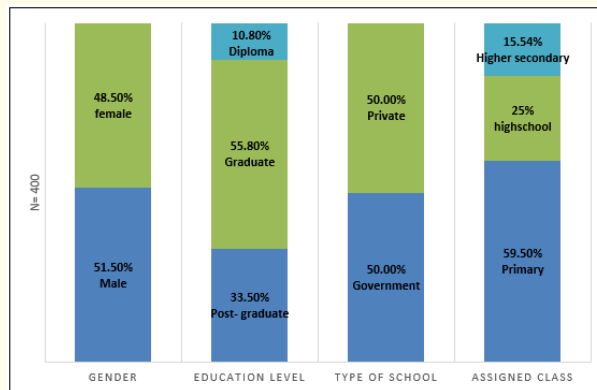
According to the World Health Organization (WHO), adolescence is the transitional phase from childhood to adulthood, typically spanning ages 10 to 19. This period is critical for shaping future outcomes [4]. Many individuals initiate tobacco use during adolescence, making this group particularly vulnerable to developing this harmful habit. According to data from the Centres for Disease Control and Prevention, over 14% of children experiment with cigarettes before 12 years old [6].

In Madhya Pradesh, according to the ICMR- National Centre for Disease Informatics and Research 2021, the average annual incidence of cancer is 1789 cases per 100,000 people. The ratio of male to female incidence is approximately 49.9% to 50.1% for adults and 90.4% to 56.3% for children. In Madhya Pradesh, the leading site for cancer is the oral cavity, accounting for 17.1% of cases. Among children aged 0-14 years, 90.4% of cases are male and 56.3% are female. According to GYTS, 3.9% of children in Madhya Pradesh currently use tobacco in various forms [7].

Children are the foundation of any country, and its success depends on their well-being. Developing good habits during adolescence can greatly influence adulthood. Therefore, education serves not only as a tool for individual and community development but also as the foundation for our future [8].

Schools play a crucial role in children's lives, shaping their character and morals alongside academic learning. They provide opportunities for social interaction, the development of social skills, and the formation of relationships beyond the family, influencing the development of both good and bad habits. School provides the mental, physical and academic development of a child. School education fosters healthy thinking and enhances cognitive abilities. Teachers play a crucial role in children's overall development, influencing behaviour and instilling good manners. Given that children spend much of their day in school, teachers' knowledge and attitudes profoundly impact students. Hence, teachers were selected as main participants and study was planned to evaluate the knowledge and attitude regarding tobacco use and COTPA law among the school teacher in Bhopal city (M.P.).

This study was conducted in Phanda block, Bhopal city, 400 school teachers from government and private schools were categorized by primary, high school, and higher secondary levels. Data on age, gender, and educational qualifications were collected (Table 1 and graph 1).

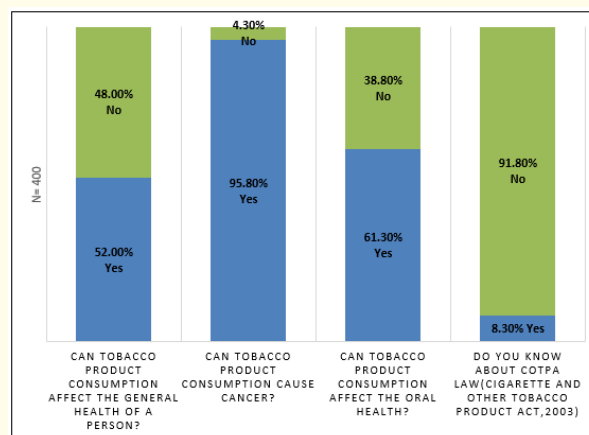


Graph 1: Demographic distribution of study participants (n = 400).

In India, tobacco products are widely used due to their easy availability and aggressive marketing. Consequently, tobacco is the most commonly used harmful substance in the country. In this study, 17.1% of teachers reported using tobacco: 18% from government schools and 16% from private schools. The majority, 82.9%, reported never using tobacco (Figure 4 and table 4). Similarly, Sharma, *et al.* discovered a higher rate of tobacco use among government school teachers compared to their private school counterparts in North India [9].

In this study, cigarettes were the most commonly used smoking product among teachers. Among smokeless tobacco products, pan masala and gutka were the most prevalent. In the study, 34% of teachers were consuming smokeless tobacco, with 19% from private schools and 15% from government schools (Figure 4). Smoking was regularly practiced by 6% private school teachers and 12% government school teachers (Figure 4). Another study was conducted by Narayan, *et al.* also reported higher proportion of cigarette use in teachers of urban of Delhi [10].

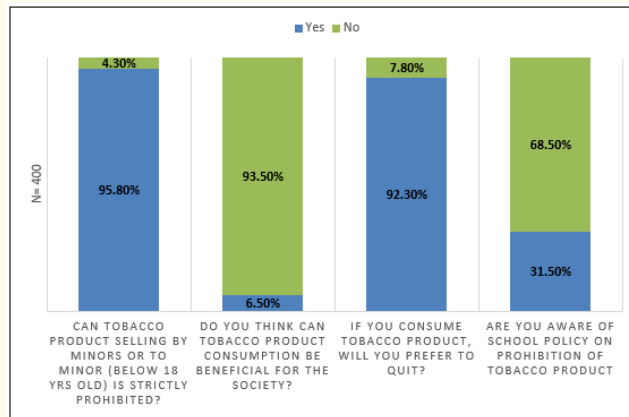
Oral cavity cancer is mainly caused by smokeless tobacco, and the risk increases with the frequency, duration, and intensity of tobacco use. In the study, 95.8% of teachers agreed that tobacco consumption can cause cancer, while 4.3% did not agree. Regarding smoking’s impact on oral health, 245 teachers agreed compared to 155 who did not (Table 2 and graph 2). Our study’s results are similar with a study by Ramadas K, *et al.* in which the maximum participants (96.3%) knew that cancer was the most common health risk [11].



Graph 2: Knowledge regarding tobacco use and COTPA law among government and private school teachers.

India signed the Framework Convention on Tobacco Control (FCTC) in September 2003. In the same year, the Indian Parliament passed the Cigarettes and Other Tobacco Products Act (COTPA) to regulate tobacco production and control tobacco advertising [12].

In our study, out of 400 participants, only 167 teachers (41.8%) were aware that tobacco sale is prohibited within 100 yards of school areas. Additionally, 113 participants (28.2%) reported shops selling tobacco within this restricted zone (Table 2 and 4). In a similar study by Kranthi, *et al.* their team mapped and listed 222 tobacco outlets within 100 yards of the sampled educational institute. Among these outlets, 75.2% exclusively sold various smokeless and smoked tobacco products to students [13]. In our study, 95.8% of participants were aware that selling tobacco products to minors (below 18 years old) is strictly prohibited (Table 3 and graph 3). Additionally, 75.0% of teachers reported having a board displaying strict prohibition on tobacco products in their school area (Table 4). Pimple, *et al.* reported in their cohort study that only 28.2% of Educational Institutions (EI) displayed a board at a noticeable place outside the institution prohibiting tobacco products [14].



Graph 3: Attitude regarding tobacco use and COTPA law among government and private school teachers.

This study explored factors influencing teenagers’ perceptions of smoking initiation, including peer pressure, socioeconomic status, parental influence, curiosity or relaxation, accessibility, pleasure or fashion, and emotional factors like low self-esteem, depression, or anxiety (Figure 3). In our study, most teachers believe that smoking initiation is influenced by multiple factors and that anyone can influence children to smoke. For example, many Indian fathers and grandfathers frequently ask boys to fetch beedi or cigarettes from nearby shops or kiosks, introducing them to these products at a young age.

Children and teenagers with anxiety and depression are more likely to use tobacco and other drugs because these substances are thought to relieve anxiety and improve mood. ES Atkinson, *et al.* concluded that emotional factors may contribute to children picking up these habits. These children are often rebellious, prone to taking risks, perform poorly academically, feel disconnected from school, and have low self-esteem [15].

Considering the severe health risks linked with tobacco addiction, it’s crucial to create preventive measures to lower tobacco use. These strategies, particularly targeted at children and teens, need to be started urgently. This is especially critical for developing nations like India, which are heavily targeted by multinational tobacco companies’ advertisements and promotions [16].

In our study, 68.5% of teachers were unaware of the school policy on tobacco prohibition. Additionally, 91.8% of teachers were unaware of the COTPA law, while only 8.3% were familiar with it. Violation of COTPA law was opted with Fine of Rs. 200 - Rs 5000 and Fine with imprisonment. Most of the teachers, 267 (66.8%) were unknown of violation morals. In our study, 16.3% of teachers chose a fine ranging from Rs 200 to Rs 5000 as the penalty for violating the COTPA law, while 15.5% preferred a fine coupled with imprisonment. Only 1.5% of teachers stated that there is no penalty for violating the COTPA law (Table 2 and figure 5). Similar study regarding COTPA law was done and similar results were observed in the study by Desai D [2].

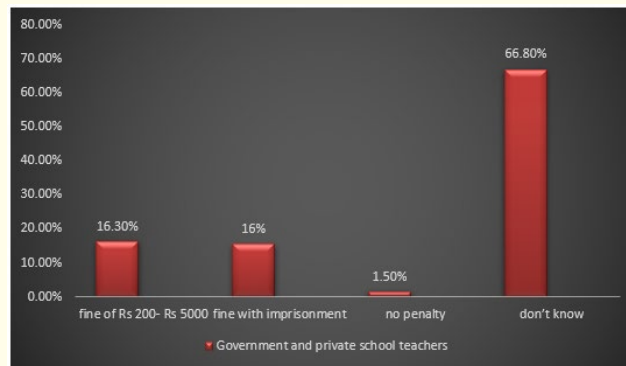


Figure 5: Knowledge of teachers regarding the penalty for violation of COTPA act.

There was no significant difference found in the knowledge, attitude of tobacco use and COTPA law among the government and private school teachers when compared (Figure 4).

Seeing the scenario of School of Bhopal city in above mentioned various studies. In this study, Teachers was counselled regarding types of smoking and smokeless tobacco products, health hazards, passive smoking, the detrimental health effects of Environmental tobacco smoke, particularly for children with respiratory diseases and COTPA Law particularly in institutional set up may be a strong message to quit smoking along with cessation strategies. Knowledge and awareness regarding COTPA law was raised after taking session (Table 5).

Teachers were educated regarding the hazards of tobacco products and COTPA Law and motivated to educate their children regarding tobacco products, their health hazards to prevent children from initiating the habits, and COTPA Law to help them to be better citizens of the country.

Conclusion

We conclude that school teachers have limited knowledge about tobacco products, health risks, and the COTPA law. Tobacco consumption among children in India is a growing concern, with studies showing that many young people are exposed to tobacco products at an early age. Positive attitudes and behaviour are key to helping teachers enforce the COTPA law effectively. Raising awareness is essential to encourage teachers to adopt the right mindset and behaviour, which they can pass on to their students. In our study, knowledge and awareness of the COTPA law and tobacco hazards significantly increased after the post-survey awareness session. As a Pedodontist, it's important to provide children with the right information at the right age to shape their mindset which will helping them to become better citizens.

Therefore, to assess and compare the knowledge and attitude about tobacco use and the COTPA law among government and private school teachers, this study should be conducted with a larger sample size in Bhopal, Madhya Pradesh.

Conflict of Interest

None.

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Volume 13 Issue 12 December 2024

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