

Assessing the Compliance with Cigarettes and Other Tobacco Products Act 2003 in Chennai

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ABSTRACT:

BACKGROUND: The aim of the study was to assess the compliance of COTPA in Chennai. The cigarettes and other tobacco products act 2003 is an act enacted by the parliament of India to give effect to the resolution passed by the 39th world Health assembly. It aims at prohibition of advertisement, regulation of trade and commerce, production, supply and distribution of cigarettes and other tobacco products.

MATERIALS AND METHODS: It was a cross sectional survey study with a sample size of 245 people. A pre-validated self administered questionnaire was used. Descriptive statistical and inferential statistics (chi square test) were performed using the responses received with the help of SPSS (Statistical Package for the Social Sciences) software.

RESULTS: The results showed an association between educational qualification of people with their level of compliance to COTPA (p value < 0.05). Also, there is an association between gender and implementation of COTPA (Chi square test value: 9.537, DF: 1, p value: 0.002 (< 0.05)). The p value obtained was less than 0.05 indicating statistically significant.

CONCLUSION: The present study concludes that nearly 40% of all the participants were always compliant towards COTPA. In future this study can be trial based and conducted for a larger sample size of population.

KEYWORDS: COTPA, Compliance, Novel Questionnaire, Innovative technique

INTRODUCTION:

The Cigarettes and other tobacco products act, 2003 or COTPA is an act of parliament of India enacted in 2003 to prohibit advertisement of and provide for the regulation of trade and commerce in, and production, supply and distribution. The act was enacted by the parliament to give effect to the resolution passed by the 39th World Health Assembly, using the member states to implement measures to provide non smokers protection from involuntary exposure to tobacco smoke. About 28.6% of all adults currently use tobacco (GATS 2019) 19.2% of all adults notice tobacco advertisements. 18.3% of all adults do not notice tobacco advertisements.

Tobacco addiction is the most widespread addiction which affects 1.3 billion smokers in the world. In India 300 million smokers are there. Tobacco use is the leading cause of death. Tobacco is the only legally available consumer product that kills people when used entirely as intended. Use of tobacco, cigarettes is an epidemic that can lead to Cancer, heart diseases, stroke, lung diseases, diabetes, chronic obstructive pulmonary diseases etc. 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 secondhand smoke.

Tobacco use is the leading preventable cause of disease and premature deaths globally and in India (1). Tobacco-related diseases account for an estimated 6 million deaths globally and 0.8–0.9 million

deaths in India each year.(1,2)The Global Adult Tobacco Survey, India (2009), shows that nearly 35% of adults use tobacco, and the average age at initiation of daily tobacco use is 17.9 years.(3)

A study concluded that sections 4,5,6,7 of COTPA were violated in Bengaluru city. There was also violation of COTPA In and around educational institutes.(4)

A cross sectional study found out that COTPA sections 4,6,7 were not being implemented in Bengaluru.2

COTPA compliance in Udupi district of Karnataka was very low and demanded stringent measures. They also concluded that compliance with national legislation was found to be low. The health warnings were perceived as a deterrent of tobacco use among students.(5)

They conducted a study and nearly half the participants of the study were aware of COTPA. Nearly two thirds of the participants showed an overall positive attitude towards COTPA. The participants opined implementation of legislation was not effective (6).

They found out that COTPA was not being implemented to its fullest extent in Chennai. There was a widespread violation with respect to the sale of tobacco products around 100 m radius of school.(7)

According to Global Youth Tobacco survey reports, 14% of the students currently use some form of tobacco. Our team has extensive knowledge and research experience that has translate into high quality publications(8–16),(17),(18),(19,20),(21),(22),(23–27)

There is a lack of data regarding the levels of compliance with COTPA 2003 in Chennai in spite of a lot of rules and regulation. So, the research is required to obtain the attitude and perception of people towards COTPA.

MATERIALS AND METHODS:

The present study was a cross sectional survey based study . The study was conducted among 245 outpatients visiting the dental college. A pre validated self administered questionnaire was used. The case sheet verification was done through a questionnaire. Minimum sampling bias was achieved by simple random sampling. Internally validated and protested questionnaires were used. External validity cannot be generalised to the population. The data was verified by the principal investigator/guide and there was no conflict of interest. Censored data and Error identification was not found. The data was imported to SPSS(Statistical Package for the Social Sciences). Descriptive statistics and inferential statistics were performed. Some of the independent variables in this study were age, gender, frequency of using cigarettes and other tobacco products, Socio economic status, educational qualification and occupation.

RESULTS: Overall 245 responses were included in the study. The percentage of males (70.6%) participating in this study was more than the percentage of females (29.4%). The average age was found to be 23 ± 6.9 years.

TABLE 1: Demographic details of study participants

Demographic details	N	Percentage
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Gender	Male	173	70.6
	Female	72	29.4
Education	Graduate	169	69.0
	High school	73	29.8
	Illiterate	3	12
Socioeconomic Status	Upper	25	10.2
	Upper Middle	67	27.3
	Lower Middle	71	29.0
	Upper Lower	77	31.4
	Lower	5	2.0

Table 1 represents the distribution of the study population based on the demographic details. Based on the findings of the study, the majority of the study population were males (70.6%). It can also be observed that the majority of the participants were graduates (69%). Most of the participants belonged to the upper lower class (31.4%).

Figure 1 . Distribution of study participants based on compliance with COTPA

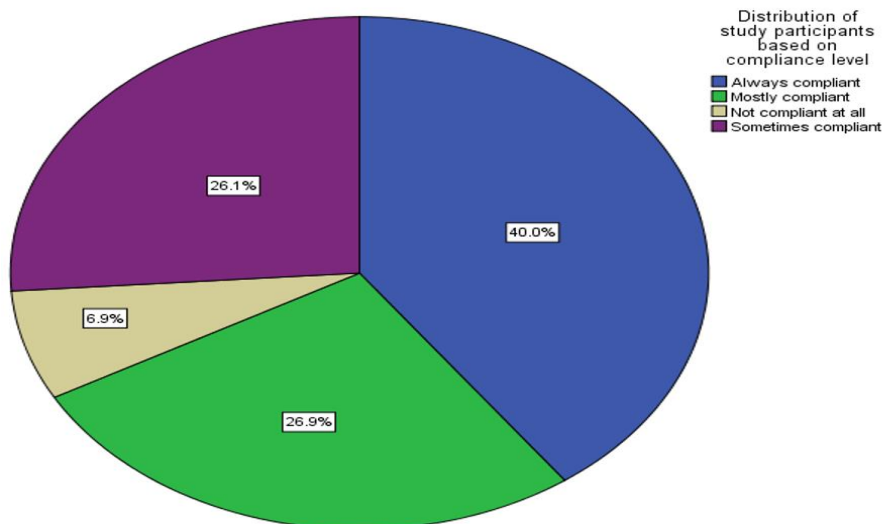


Figure 1 represents the distribution of study participants based on level of compliance. Based on the findings of the study, the majority of the study population were always complaint with COTPA (denoted in blue)

Table 2 represents the association between educational qualification and the compliance level with COTPA among the study population.

Education	Always compliant	Mostly compliant	Sometimes compliant	Never compliant	P Value
Graduate	90	14	54	11	0.000
High School	7	52	9	5	
Illiterate	1	0	1	1	

Table 2 represents the association between educational qualification and the compliance level with COTPA among the study population. Chi square test was done; p value<0.05 considered statistically significant. Based on the findings of the study, educational qualification and compliance level of COTPA was found to be statistically significant.

Table 3 Association between socioeconomic status of the participants and their compliance level with COTPA.

Socioeconomic status	Always compliant	Mostly compliant	Sometimes compliant	Never compliant	p value
Upper	0	24	0	1	0.000
Upper Middle	24	2	41	0	
Lower Middle	2	0	1	2	
Upper Lower	6	5	12	54	
Lower	8	10	35	18	

Table 3 represents the association between the socio economic status of the participants and their compliance level with COTPA. Chi square test was done; p value,0.05 considered statistically significant. Based on the findings of the study, the occupation of people and their compliance level with COTPA was found to be statistically significant.

FIGURE 2: Association between Compliance to COTPA and gender

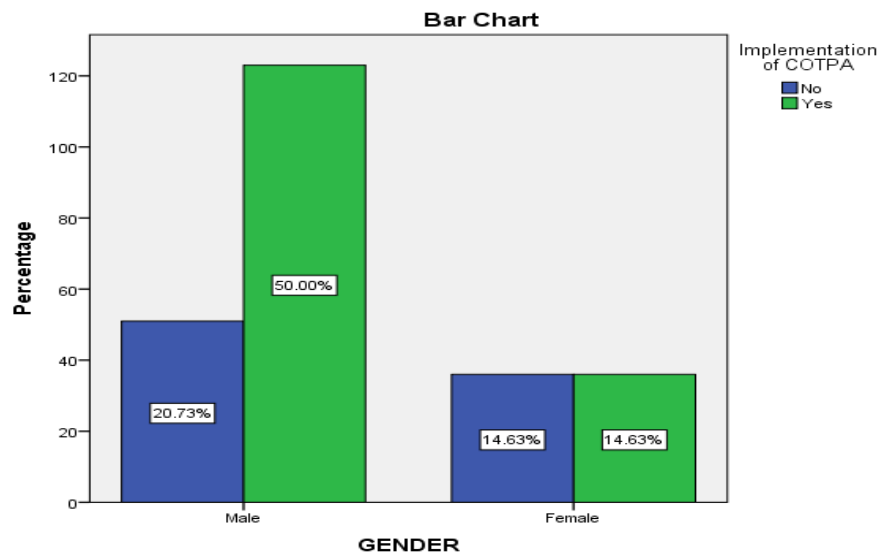


FIGURE 2: depicts the barchart showing association between the responses based on gender with implementation of COTPA. The X axis represents the gender and the Y axis represents the responses for the question ‘Have you taken steps to implement the COTPA law’. Blue colour represents no and green colour represents yes. Higher number of males (20.73%) reported no. Chi square test was done.(Chi square test value: 9.537, DF: 1, p value: 0.002(< 0.05) The p value obtained was less than 0.05 indicating statistically significant. Therefore there is an association or correlation between gender and implementation of COTPA.

DISCUSSION:

The cigarettes and other tobacco products act was enacted in the year 2003 to prohibit and regulate the production, supply and distribution of cigarettes in india. However the act needs assessment since its enforcement varies across the country. The study aimed to assess the compliance towards COTPA mong outpatients visiting dental hospital in Chennai.

In the current study, most of the study participants were graduates. About 40% of the study population were found to be always compliant with the COTPA laws, which shows that a majority of the population do not adhere strictly to the laws, similar findings have been observed in studies done in other states on India as well (4,28–30). In fact, in Chennai, a previous study has concluded that widespread violation with respect to sale of tobacco products around 100 m radius of school was observed (7). Contrary to the findings of the current study, Jain *et al* conducted a study in Alwar, Rajasthan where the compliance rate was observed to be high (31). Therefore, conclusions can be drawn that in metropolitan cities the adherence to laws regarding tobacco are not followed as much as in smaller states. It could be due to the high prevalence of tobacco use among the states as well. However, studies have shown that in urban areas, lapses in compliance to the act have been noted in spite of the smoke free nature of a city (32).

In the present study, education was significantly associated with compliance to the COTPA laws. Higher proportion of literate study participants were aware of the dangers of tobacco and of the fact that smoking is banned in public places. The findings were similar to the study in Nellore city (33). Globally also, it has been observed that people with higher education supported smoke free public places (34,35).

The present study found that there was a statistically significant association between socioeconomic status and compliance to COTPA laws. Similarly, other studies have shown that lower compliance rates were observed in low socioeconomic neighbourhoods (36,37).

In spite of 18 years after implementation of the COTPA law, the majority are not aware of the anti tobacco laws and do not abide by the laws regulated by the government. Therefore, intensified efforts should be made by the law makers as well as the general population to regulate the selling and usage of tobacco products.

The present study is a questionnaire based survey study and having a small sample size does not represent the entire population of dental students. In future this study can be conducted for a larger sample size of student population and it can be conducted in time intervals to assess the knowledge and awareness of students periodically.

CONCLUSION:

The study concluded that an adequate number of the study population were always compliant with COTPA. So stringent measures need to be taken for better implementation of COTPA in Chennai city. There was significant association between educational qualification, socioeconomic status and level of compliance with COTPA laws.

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AUTHOR CONTRIBUTIONS:

Ms.Vishaka: Literature search, survey, experimental data collection, analysis, manuscript writing

Dr.Pradeep.Kumar.R : Study design, data verification, manuscript drafting

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CONFLICTS OF INTEREST:

The authors declare that there are no conflicts of interest in the present study

References:

- [1] World Health Organization. WHO Report on the Global Tobacco Epidemic 2015: Raising Taxes on Tobacco. World Health Organization; 2015. 198 p.
- [2] Sarkar BK, Reddy KS. Priorities for tobacco control research in India. *Addiction*. 2012 Dec;107(12):2066–8.
- [3] Singh PK, Yadav A, Lal P, Sinha DN, Gupta PC, Swasticharan L, et al. Dual Burden of Smoked and Smokeless Tobacco Use in India, 2009-2017: A Repeated Cross-Sectional Analysis Based on Global Adult Tobacco Survey. *Nicotine Tob Res*. 2020 Dec 12;22(12):2196–202.
- [4] Habbu S, Krishnappa P. Assessment of implementation of COTPA-2003 in Bengaluru city, India:

- A cross-sectional study [Internet]. Vol. 13, Journal of Indian Association of Public Health Dentistry. 2015. p. 444. Available from: <http://dx.doi.org/10.4103/2231-6027.171165>
- [5] Koppad R, Nagendra K. A study on cigarette and other tobacco products act (COTPA) compliance (for section 4, section 5 (POS), of COTPA 2003) in urban Shimoga, Karnataka [Internet]. Vol. 2, International Journal of Advanced Community Medicine. 2019. p. 121–4. Available from: <http://dx.doi.org/10.33545/comed.2019.v2.i2b.17>
- [6] Rao AR, Dudala SR, Bolla CR, Kumar BPR. Knowledge attitude and practices regarding the cigarettes and other tobacco products act (COTPA) in Khammam, Andhra Pradesh. *Int J Res Health Sci*. 2013;1(2):96–102.
- [7] Babu NK, Indiran MA, Rathinavelu PK. Assessing the compliance with cigarettes and other tobacco products act 2003 in Chennai: An observational study. *Drug Invention* [Internet]. 2019; Available from: <http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=09757619&AN=135073054&h=qWoywWcPYv0Kbvvat3POHQ56GT42yI8LVD1BbUBH8U3DkuDJPDRF10zD0RT51TRmXSn9vwn9Ktfdi4sj8OI5bw%3D%3D&crl=c>
- [8] Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: randomized controlled trial. *Clin Oral Investig*. 2020 Sep;24(9):3275–80.
- [9] Samuel SR. Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life? *Int J Paediatr Dent*. 2021 Mar;31(2):285–6.
- [10] Samuel SR, Kuduruthullah S, Khair AMB, Al Shayeb M, Elkaseh A, Varma SR, et al. Impact of pain, psychological-distress, SARS-CoV2 fear on adults' OHRQOL during COVID-19 pandemic. *Saudi J Biol Sci*. 2021 Jan;28(1):492–4.
- [11] Samuel SR, Kuduruthullah S, Khair AMB, Shayeb MA, Elkaseh A, Varma SR. Dental pain, parental SARS-CoV-2 fear and distress on quality of life of 2 to 6 year-old children during COVID-19. *Int J Paediatr Dent*. 2021 May;31(3):436–41.
- [12] Samuel SR, Acharya S, Rao JC. School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial. *J Public Health Dent*. 2020 Jan;80(1):51–60.
- [13] Vikneshan M, Saravanakumar R, Mangaiyarkarasi R, Rajeshkumar S, Samuel SR, Suganya M, et al. Algal biomass as a source for novel oral nano-antimicrobial agent. *Saudi J Biol Sci*. 2020 Dec;27(12):3753–8.
- [14] Chellapa LR, Rajeshkumar S, Arumugham MI, Samuel SR. Biogenic Nanoselenium Synthesis and Evaluation of its antimicrobial, Antioxidant Activity and Toxicity. *Bioinspired Biomim Nanobiomaterials*. 2020 Jul 23;1–6.
- [15] Samuel SR, Mathew MG, Suresh SG, Varma SR, Elsubeihi ES, Arshad F, et al. Pediatric dental emergency management and parental treatment preferences during COVID-19 pandemic as compared to 2019. *Saudi J Biol Sci*. 2021 Apr;28(4):2591–7.
- [16] Barma MD, Muthupandiyani I, Samuel SR, Amaechi BT. Inhibition of Streptococcus mutans, antioxidant property and cytotoxicity of novel nano-zinc oxide varnish. *Arch Oral Biol*. 2021 Jun;126:105132.
- [17] Muthukrishnan L. Nanotechnology for cleaner leather production: a review. *Environ Chem Lett*. 2021 Jun 1;19(3):2527–49.

- [18] Muthukrishnan L. Multidrug resistant tuberculosis - Diagnostic challenges and its conquering by nanotechnology approach - An overview. *Chem Biol Interact.* 2021 Mar 1;337:109397.
- [19] Sekar D, Auxilia PK. Letter to the Editor: H19 Promotes HCC Bone Metastasis by Reducing Osteoprotegerin Expression in a PPP1CA/p38MAPK-Dependent Manner and Sponging miR-200b-3p [Internet]. *Hepatology.* 2021. Available from: <http://dx.doi.org/10.1002/hep.31719>
- [20] Gowhari Shabgah A, Amir A, Gardanova ZR, Olegovna Zekiy A, Thangavelu L, Ebrahimi Nik M, et al. Interleukin-25: New perspective and state-of-the-art in cancer prognosis and treatment approaches. *Cancer Med.* 2021 Aug;10(15):5191–202.
- [21] Kamala K, Sivaperumal P, Paray BA, Al-Sadoon MK. Author response for “Identification of haloarchaea during fermentation of *Sardinella longiceps* for being the starter culture to accelerate fish sauce production” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47375106>
- [22] Ezhilarasan D, Lakshmi T, Subha M, Deepak Nallasamy V, Raghunandhakumar S. The ambiguous role of sirtuins in head and neck squamous cell carcinoma. *Oral Dis* [Internet]. 2021 Feb 11; Available from: <http://dx.doi.org/10.1111/odi.13798>
- [23] Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. *J Oral Pathol Med.* 2019 Apr;48(4):299–306.
- [24] R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology.* 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
- [25] J PC, Pradeep CJ, Marimuthu T, Krithika C, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study [Internet]. Vol. 20, *Clinical Implant Dentistry and Related Research.* 2018. p. 531–4. Available from: <http://dx.doi.org/10.1111/cid.12609>
- [26] Wahab PUA, Abdul Wahab PU, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, et al. Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study [Internet]. Vol. 76, *Journal of Oral and Maxillofacial Surgery.* 2018. p. 1160–4. Available from: <http://dx.doi.org/10.1016/j.joms.2017.12.020>
- [27] Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction- a comparative study. *Journal of Cranio-Maxillofacial Surgery.* 2020 Jun 1;48(6):599–606.
- [28] Pimple S, Gunjal S, Mishra GA, Pednekar MS, Majmudar P, Shastri SS. Compliance to Gutka ban and other provisions of COTPA in Mumbai. *Indian J Cancer.* 2014 Dec;51 Suppl 1:S60–6.
- [29] Ali I, Patthi B, Singla A, Dhama K, Muchhal M, Rajeev A, et al. Assessment of implementation and compliance of (COTPA) Cigarette and Other Tobacco Products Act (2003) in open places of Delhi. *J Family Med Prim Care.* 2020 Jun;9(6):3094–9.
- [30] Rath R, Krishnan A, Nongkynrih B, Misra P. Assessment of implementation status of Cigarettes and Other Tobacco Products Act (COTPA) and its awareness among residents in a block of Haryana. *Indian J Public Health.* 2018 Apr;62(2):100–3.
- [31] Jain ML, Chauhan M, Singh R. Compliance assessment of cigarette and other tobacco products act in public places of Alwar district of Rajasthan. *Indian J Public Health.* 2016 Apr;60(2):107–11.
- [32] Chaudhary A, Thakur A, Chauhan T, Mahajan A, Barwal VK, Chamotra S, et al. Creation of a

- Smoke-free Environment for Children: An Assessment of Compliance to COTPA 2003 Legislation in an Urban Area. *Indian Pediatr.* 2019 Oct 15;56(10):837–40.
- [33] Athuluru D, Reddy C, Sudhir KM, Kumar K, Gomasani S, Nagarakanti S. Cognizance and social attitudes regarding tobacco control laws in and around educational institutions of Nellore city, India. *J Educ Health Promot.* 2018 Oct 29;7:125.
- [34] Warren CW, Jones NR, Chauvin J, Peruga A, GTSS Collaborative Group. Tobacco use and cessation counselling: cross-country. Data from the Global Health Professions Student Survey (GHPSS), 2005-7. *Tob Control.* 2008 Aug;17(4):238–47.
- [35] Hilton S, Semple S, Miller BG, MacCalman L, Petticrew M, Dempsey S, et al. Expectations and changing attitudes of bar workers before and after the implementation of smoke-free legislation in Scotland. *BMC Public Health.* 2007 Aug 14;7:206.
- [36] Mistry R, Pimple S, Mishra G, Gupta PC, Pednekar M, Ranz-Schleifer N, et al. Compliance With Point-of-Sale Tobacco Control Policies in School-Adjacent Neighborhoods in Mumbai, India. *Am J Health Promot.* 2016 Jul;30(6):433–40.
- [37] Sharma I, Sarma PS, Thankappan KR. Awareness, attitude and perceived barriers regarding implementation of the Cigarettes and Other Tobacco Products Act in Assam, India. *Indian J Cancer.* 2010 Jul;47 Suppl 1:63–8.