

## Original Research Article

# Awareness and attitude towards smoking in public places among general population in Guntur city

Srinivas Ravoori<sup>1</sup>, Suresh Chand Yaddanapalli<sup>1\*</sup>, Parveen Sultana Shaik<sup>1</sup>,  
Nijampatnam P. M. Pavani<sup>1</sup>, Harish Chowdary Kommineni<sup>2</sup>, Dileep Velagapudi<sup>3</sup>

<sup>1</sup>Department of Public Health Dentistry, <sup>2</sup>Department of Pedodontics and Preventive Dentistry, Sibar Institute of Dental Science, Takellapadu, Guntur, Andhra Pradesh, India

<sup>3</sup>Department of Public Health, Deakin University, Australia

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### \*Correspondence:

Dr. Suresh Chand Yaddanapalli,

E-mail: [ysc.dentist@gmail.com](mailto:ysc.dentist@gmail.com)

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## ABSTRACT

**Background:** This study determined to know the awareness and attitude towards the state prohibition of smoking in public places law.

**Methods:** Descriptive cross-sectional study design. 400 consenting respondents recruited using a convenience sampling method were interviewed using a semi-structured questionnaire covering their smoking pattern, awareness and attitude towards the law of prohibition of smoking in public places in Guntur, Andhra Pradesh State. Data was analysed using descriptive, Chi-square and Pearson correlation.

**Results:** About 95.3% of the participants agreed that they do not encourage smoking in public places and 99% of them supported the proposition that smoking in public places causes problems to others where 53.8% supports ban of tobacco and 92% of participants perceived that implementing laws can prevent smoking in public places. 83% of participants restrict a person smoking in public places and only 3.3% of participants are aware of the act done by the government. 74% of the participants stated that television is the prime source of information that is effective in preventing smoking in public places followed by radio (8.5%) and cinema halls (7.8%).

**Conclusions:** There is poor awareness and attitude towards the law of prohibition of smoking in public places in Guntur. It is necessary to increase sensitization of the general public and enforcement of the COTPA act.

**Keywords:** Compliance, COTPA, India, Knowledge, Public places, Tobacco laws, Tobacco use

## INTRODUCTION

Tobacco is deadly in any form or disguise and scientific evidence has unequivocally established that exposure to tobacco smoke causes disease, disability and death.<sup>1</sup> Smoking is one of the leading preventable causes of death and diseases in the world. According to the world health organization, nearly six million people die annually from cigarette smoking.<sup>2</sup> Tobacco use; mainly in the form of cigarette is one of the major public health disasters of the twentieth century. It is one of the largest causes of

preventable death worldwide and the leading cause of premature death in industrialized countries.<sup>3</sup>

SHS (second hand smoke) is three to four times more toxic per gram of particulate matter than mainstream tobacco smoke. More than 4000 chemicals have been identified in tobacco smoke, where at least 250 of them are known to be detrimental and environmentally unfriendly.<sup>1</sup>

Smoking in public places causes non-smokers to be exposed to smoking.<sup>4</sup> Alarming, more than six lakhs non-smokers die each year from breathing passive smoke.<sup>5</sup> This act of second hand smoking is associated with increased incidence of respiratory problems, lung cancers and cardiovascular diseases.<sup>4</sup> Children exposed to SHS are also at risk of middle ear diseases, sudden infant death syndrome and lower respiratory illness.<sup>5</sup>

Many studies have shown that public-place smoking restrictions are a most effective way to reduce exposure to passive tobacco smoking. Since Guntur is a major district in production and consumption of tobacco, the public in this area are more prone to get habituated to various forms of tobacco. Hence this study was conducted to know the awareness and attitudes of ill effects through smoking in public places and second hand smoke.

## METHODS

A descriptive cross-sectional study was done among general population in Guntur city. A self-administered, pre-tested validated questionnaire that includes demographic details, awareness and attitude was used to collect the data. Ethical approval from Institutional Ethical Committee and written informed consent from study participants was obtained. With the general public, face-to-face interviews were performed. The study was done during the period of 2 months from June to August 2019 and the people who agreed to take part in the study were included and others were excluded. On the pre-decided days, a trained investigator visited each of the public places and for those who are uneducated the investigator filled the questionnaires based on their responses. Statistical analysis of data was processed using Microsoft Excel 2007 and SPSS software (version 20, SPSS Inc., Chicago, IL, USA). Chi-square tests were used to assess the association between smoking behavior, smoking beliefs and socio-demographic variables.  $P \leq 0.05$  was considered as a significant result.

The questionnaire was developed on the basis of the perceptions of authors, the context of the study subjects and their usage of tobacco products were taken into consideration. The perceptions were converted into sentences to frame the questionnaire. These questions were then organized and were translated to Telugu, mother tongue of the state and then back translated to English by a bilingual expert. The face and content validity of the questionnaire were assessed, while the content validity of the questionnaire was 0.82. The reliability of the questionnaire was assessed in the pilot study, which was conducted on 50 individuals (Cronbach's  $\alpha = 0.84$ ). The final questionnaire contained semi-structured questions after considering minor corrections.

Sample size:  $\frac{4pq}{d^2} = 4 \times 50 \times 50 / 25 = 400$ .

## Study area

The study was conducted in Guntur city which is the administrative headquarters of Guntur district in the newly formed Indian state of Andhra Pradesh. The city is well known for the production and export of chillies, cotton, tobacco and has the largest chilli market yard in Asia. Recognizing the necessity to control production, promote overseas marketing and to control recurrent instances of imbalances in supply and demand, which lead to market issues, the Government of India under the Tobacco Board Act of 1975, established the Tobacco Board, in the place of the Tobacco Export Promotion Council, opened its headquarters at Guntur in Andhra Pradesh, India. Data were collected from participants at the bus stand, railway station, amusement centers, clubs, public offices, court buildings, educational institutions, libraries, were selected where 50 participants from each of these places were taken.<sup>6,7</sup>

## RESULTS

Out of 400 study participants, most of them are males (81%) belonging to 35-44 years age group (34.5%) and completed graduation (75.8%) (Table 1). The prevalence of smokers in the present study is 46.5% (Table 1) of which 56.2% are males and 5.3% are females. When compared to non smokers most of the smokers belong to 18-24 years age group (55%) ( $p=0.042$ ) and with primary school education (84.6%) which is statistically significant ( $p=0.001$ ) (Table 2).

**Table 1: Distribution of the participants according to gender, age, and education.**

Demographics		Frequency	Percent
Gender	Male	324	81.0
	Female	76	19.0
Age in years	18-24	40	10.0
	25-34	110	27.5
	35-44	138	34.5
	45-54	74	18.5
	55 and above	38	9.5
	Uneducated	24	6.0
Education	Primary school	13	3.3
	Secondary school	26	6.5
	Intermediate	34	8.5
	Graduate	303	75.8
	Smoking habit		
	Present	186	46.5
	Absent	214	53.5

A positive attitude and practices were observed in participants towards the restriction of smoking in public places. About 95.3% of the participants agreed that they do not encourage smoking in public places and 99% of them supported the proposition that smoking in public places causes problems to others where 53.8% supports ban of tobacco and 92% of participants perceived that implementing laws can prevent smoking in public places.

83% of participants restrict a person smoking in public places and only 3.3% of participants are aware of the act done by the government (Table 3).

**Table 2: Distribution of the participants according to their smoking habit.**

Characteristics	Smokers (%)	Non smokers (%)	Sig.	r value
Gender				
Male	56.2	43.8	0.001*	0.400
Female	5.3	94.7		
Age in years				
18-24	55	45	0.042*	0.047
25-34	52.7	47.3		
35-44	36.2	63.8		
45-54	52.7	47.3		
55 and above	44.7	55.3		
Education				
Uneducated	29.2	70.8	0.001*	0.083
Primary school	84.6	15.4		
Secondary school	19.2	80.8		
Intermediate	38.2	61.8		
Graduate	49.5	50.5		

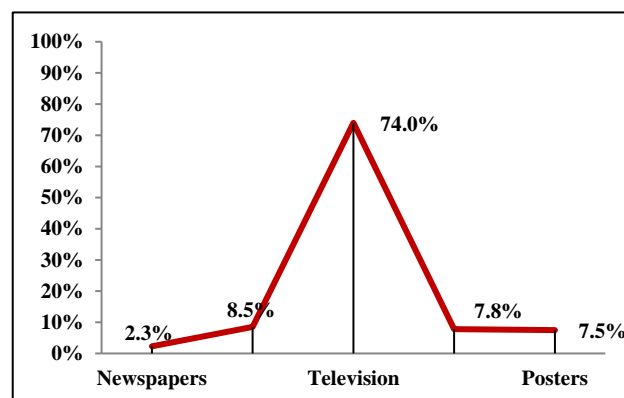
r value: Pearson correlation coefficient, \*Statistically significant

**Table 3: Responses of the participants towards smoking in public places.**

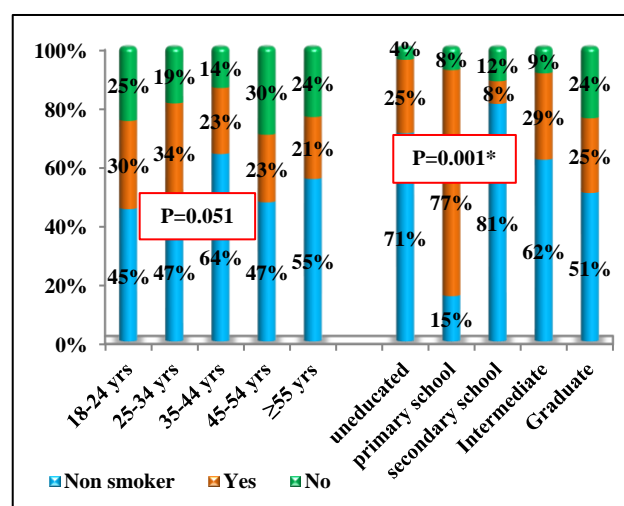
Question	Yes (%)	No (%)
Q1. Do you smoke?	186 (46.5)	214 (53.5)
If yes, Do you smoke in public places?	105 (26.3)	81 (20.3)
Q2. Do you encourage smoking in public places?	19 (4.8)	381 (95.3)
Q3. Do you know that smoking in public places causes problems to others?	396 (99)	4 (1)
Q4. Are you aware of act by government?	13 (3.3)	387 (96.8)
Q5. Do you support ban of tobacco?	215 (53.8)	185 (46.3)
Q6. Do you think implementing laws can prevent smoking in public places?	368 (92)	32 (8)
Q7. Do you restrict a person smoking in public places?	332 (83)	68 (17)

74% of the participants stated that television is the prime source of information that is effective in preventing smoking in public places followed by radio (8.5%) and cinema halls (7.8%) (Figure 1). 26.3% of overall participants reported that they smoke in public places (Table 3) of which most of them belongs to 25-34 years

age group (34%,  $p=0.051$ ) and with primary school education (77%,  $p=0.001$ ) (Figure 2).



**Figure 1: Which source of information do you think is effective in preventing smoking in public places?**



Chi-square test, \*statistically significant

**Figure 2: Distribution of participants who smoke in public places according to their age and educational status.**

Participants with age  $\geq 55$  years (100%) followed by 45-54 years reported that they do not encourage smoking in public places but about 10% of participants with age group 18-24 years gave an inverse response ( $p=0.33$ ) and individuals with primary school education (15.4%,  $p=0.070$ ) reported that they encourage smoking in public places (Table 4).

Almost all the participants with different age groups and educational levels reported that they are not aware of act by the government regarding smoking in public places where a statistically non-significant difference was observed with age ( $p=0.338$ ) and education ( $p=0.625$ ); Majority of the participants with age 25-34 years (93.6%,  $p=0.404$ ) and with secondary school education (96.2%,  $p=0.012$ ) perceived that implementing laws can prevent smoking in public places (Table 4).

**Table 4: Participants knowledge and attitude towards smoking in public places according to their age and education.**

	Do you encourage smoking in public places?		Are you aware of act by government?		Do you think Implementing laws can prevent smoking in public places?	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Age in years						
18-24	10.0	90.0	5.0	95.0	90.0	10.0
25-34	5.5	94.5	3.6	96.4	93.6	6.4
35-44	4.3	95.7	1.4	98.6	92.8	7.2
45-54	4.1	95.9	2.7	97.3	93.2	6.8
≥55	0.0	100	7.9	92.1	84.2	15.8
P value	0.333		0.338		0.404	
Education						
Illiterate	4.2	95.8	0.0	100	75.0	25.0
Primary school	15.4	84.6	0.0	100	84.6	15.4
Secondary school	0.0	100	0.0	100	96.2	3.8
Intermediate	11.8	88.2	2.9	97.1	88.2	11.8
Graduate	4.0	96.0	4.0	96.0	93.7	6.3
P value	0.070		0.625		0.012*	

Chi-square test, \*statistically significant.

## DISCUSSION

Smoking in the form of cigarettes is available throughout the world. Filter-tipped cigarettes are in demand while hand-rolled cigarettes are widely smoked in many countries. Smoking is an extremely hazardous habit that hits exactly at a person's basic living system- the lungs. It's been a rather manly thing to smoke. Over the years, the tobacco companies had perfected the art of targeting the men with macho ads associated with smoking which was terminated in the later periods by enforcement of vigilant laws and recently smoking on screen by the movie stars has also made this vacuous act more forge ahead. The prevalence of smoking in the present study was 46.5% where as in the studies done by Singh A et al it was 25.4%, Kutty et al 21.8%, 31.03% Pracheth, 25% Goel et al, 45.6% Bhat et al.<sup>8-12</sup>

Most of the study participants are males and belongs to 35-44 years age group. Where as in the studies done by Bhardwaj et al, Tekade et al the majority of the individuals belonged to 21-40 years age group (59.7%).<sup>13,14</sup> Out of 70% deaths due to tobacco most of them belongs to 30-69 years age group. The age group of 35-44 years is independent, working and is the standard monitoring group for health conditions of adults. Using data for this age group the full effect of dental caries, the level of severe periodontal involvement, and customary effects of care provided can be monitored.<sup>15</sup>

95.25% of the present study participants has responded that they do not encourage smoking in the public places while similar response were also found in the studies done by 60.77% Pracheth et al, 58.76% Garg et al, 84.2%

Goel et al.<sup>10,11,16</sup> Smoking is one of the most common forms of recreational drug use, while tobacco smoking is the most popular form, being practiced by over one billion people globally, of which the majority is in the developing countries like India. As smoker population is very concerned about the social unacceptability of smoking they usually report that they do not encourage smoking in public places. It was reported in a study that many smokers were very interested in the concept of a socially acceptable cigarette, such as a cigarette with no side stream smoke, odourless, aromatic, or a product that improved breath/ clothing/household odours for smokers.<sup>17,18,27</sup>

53.5% of the study participants have supported the ban of tobacco and relatively higher results were found in the studies done by Singh et al 88.3%, Pracheth et al 51.29%, 88.9% Goel et al, 72.3% Sharma, 81.2% Bhat et al, 63% Ahmed et al.<sup>8,10,11,12,19,20</sup> Banning smoking in public places is one way to reduce both overall smoking rates and exposure to second-hand smoke. Guntur has been successful in banning smoking in public places and sale of tobacco products, especially near educational institutions during the years 2010-2019. A fine of Rs 100 to Rs 200 is imposed for smoking in public places whilst selling tobacco products to minors, and advertisements imposes a fine of Rs 4,000 to Rs 5,000.<sup>21,22</sup>

In between years 2010-2019 the Guntur anti-tobacco cell's team collected Rs 99 lakhs towards fines from the people who has smoked in the public places in the Guntur district. The anti-tobacco drive by the Guntur police was intensive where the Guntur rural police have booked more than 31,000 cases against violators, but on the

successive years it was found that the implementation of the law was deteriorated. While there is an increase in number of attenders in a de-addiction center located in Tenali which has given counseling for 5875 persons for the past 2 years from 2017 to 2019.<sup>21,22</sup>

96.75% of the present study participants were not aware of the act done by the government whereas the levels of awareness was found higher in the studies done by Singh et al 84.2%, 90 % Goel et al, 45.7% Sharma et al, 49.73% Kumar et al.<sup>8,11,19,23</sup> In a study done by Venugopal et al, 42.1% of the participants reported that tobacco control legislations are not strictly implemented.<sup>24</sup>

### Recent legislative gestures

#### *The Cigarettes and other Tobacco Products Act, 2003*

The Indian Parliament passed the 'Cigarettes and Other Tobacco Products Bill, 2003' (prohibition of advertisement and regulation of trade and commerce, production, supply, and distribution) in April 2003 which became an Act on 18 May 2003. Rules were formulated and enforced from 1 May 2004. The chief provisions of the act were forbidding direct and indirect advertisements of tobacco products, the prohibition of smoking in public places, sale of tobacco to minors and smoking within a radius of 100 yards of educational institutes (GOI, 2003).<sup>25,26</sup>

#### *Revised*

Bill seeks to amend some provisions of Cigarettes and Other Tobacco Products Act 2003, such as the prohibition of advertisement and regulation of trade and commerce, production, supply, and distribution.

#### *Provisions of the COTPA (Amendment) Bill 2015*

The bill proposes to ban on-site advertising of tobacco products and shops selling cigarettes and other tobacco products will no longer be able to display the brand names. The forfeiture for smoking in restricted areas has been raised from 200 to 1000 (INR) Indian rupees. Anyone found producing tobacco products without the specified warning would be liable for imprisonment for up to two years for the first offense or fine up to 50000 rupees or both. Tobacco products and cigarettes in approved packaging will now be sold only to those above 21 years of age. The proposed age limit will be revised after evaluating the impact of raising the minimum age. It has also been proposed to augment the ban on the sale of cigarettes and tobacco products from 100 yards of an educational institution to 100 meters. The bill proposes to set up a National Tobacco Control Organization (NTCO) which will implement and monitor the provisions of COTPA, 2003.<sup>26,27</sup>

### Attitudes of the study population

*"Is it wrong to consume tobacco? If tobacco consumption is really wrong and harmful to our health then why my favorite hero smokes on screen". -Male respondent (student)*

*"Tobacco Consumption subsidizes only when government bans the tobacco and they should concentrate on educating people about risks of tobacco." -Male respondent (teacher)*

*"I really don't know that consumption of tobacco in public places is an offence". - Male respondent (worker)*

*"Before the start of the movie in theatre they show the advertisement of ill effects of tobacco but still in the movie with a statutory warning, they do not censor the scenes of hero smoking on the screen, does this justify the usefulness of the advertisement". -Female respondent (clerk)*

Some of the smokers in the present study believed that cigarette smoking is not dangerous to their health and this view needs consideration as it implies that these smokers are either unintentionally or carelessly endangering their life but that of their family members, co-workers and neighbors. This calls for imperative attention in order to reduce the effects of tobacco exposure among this population. There is urgent need for more public education regarding the ill effects of tobacco usage in the study area and also strict implementation and monitoring of COTPA Act.

The strength of the present study was wide representation of all public places of the study area. Our study provides valuable insights about the level of knowledge and attitudes towards significant anti-tobacco legislation.

Our study is not devoid of a few limitations; minors (those aged  $\leq 18$  years) were excluded from the study. Smoking is a socially and culturally unacceptable habit; hence, people are less likely to underreport and in turn to decrease prevalence. This study used convenience sampling for selecting study subjects in public places that may lead to selection bias and lastly cross-sectional studies only reflect the time period when the data were collected.

### CONCLUSION

The current study suggests that the awareness regarding tobacco legislation was average. The attitude towards smoking in public places is changing due to strong social conformity towards tobacco use. Dentists and dental team can be effective in helping patients to reduce or quit tobacco consumption. Strict and coherent regulation at all levels of tobacco production and use, from growing the plant to disposal of waste, has the potential to decrease consumption rates and promote cessation. This study has

an important implication as it highlights the need for stalwart enforcement of antismoking legislation for tobacco control.

### Implications for policymakers

Needed stronger implementation of COTPA Act (cigarettes and other tobacco products act), 2003; should explore newer means of approach to reach the unreached regarding the ill effects of tobacco usage; an efficient and systematic surveillance mechanism should be developed to monitor the tobacco control program; and on-screen smoking in movies should be completely banned.

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*Ethical approval: The study was approved by the Institutional Ethics Committee*

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