

Knowledge, Attitude and Pattern of Smoking Tobacco among Automobile Company Employees in Chennai - A Cross Sectional Study

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ABSTRACT

BACKGROUND

Tobacco addiction has emerged as a major public health issue resulting in enormous disability, disease, and death and also acquired the dimension of an epidemic. More people die as a result of the worldwide tobacco epidemic than from tuberculosis (TB), human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), and malaria combined. India is the second largest consumer of tobacco globally. It is estimated that five million preventable deaths occur every year globally. The trend of consumption of cigarettes is mostly seen among the young adult and adult population. Therefore, this study was done to assess the knowledge, attitude, and pattern of smoking among company and factory employees in Chennai.

METHODS

A cross sectional study was conducted among 102 automobile company employees in Chennai, where a pre-tested, self-administered questionnaire was used. Descriptive statistics, chi square test, Pearson correlation test were used to analyse the data.

RESULTS

Majority of the participants belonged to the 25 - 34 years age group. About 72.5 % of the participants believed smoking was harmful to their health. A statistically significant association was observed between education level and knowledge on smoking being harmful to health ($P > 0.05$). A positive correlation was observed among knowledge and attitude; however, both were negatively related to pattern of tobacco use.

CONCLUSIONS

Knowledge regarding hazards of smoking was high among the study population. However, attitude was found to be satisfactory. Majority of the study participants consumed 10 or less cigarettes per day. Even with a good knowledge towards ill effects of tobacco, good attitude towards quitting tobacco, practice of tobacco smoking was higher among study participants. This implies, tobacco cessation counseling should be made a priority health intervention.

KEY WORDS

Addiction, Cigarettes, Tobacco, Nicotine, Smoking.

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BACKGROUND

One of the most common problems responsible for the declining health status of people in today's times is smoking. According to World health organization (WHO), India accounts for 12 % of the world's smokers. India is the third largest tobacco producing country and the second largest in tobacco consuming. The mortality and morbidity rate due to smoking is appalling. Studies have shown that the incidence of oral cancers is exceeding than that of lung cancers due to smoking and in recent times, oral cancer alone accounts for half of all the cancers in the world. According to GATS 2, if the current trend of smoking continues, tobacco will account for 13 % of all deaths in India by the year 2020.¹ It is a well-known fact that about half of the cigarette smokers die due to tobacco related diseases.² The habit of smoking has risen in the current adolescent and middle age group owing to television, cinema, advertisements and their peers.³ The forms of tobacco include cigarettes, pipes, cigars, bidis and smokeless tobacco which consist of chewing tobacco, snuff, gutkha. The composition of cigarette is acetone, cyan hydric acid which was used in gas chambers, ammoniac (detergent), naphthalene (moth repellent), arsenic (lethal poison), cadmium (found in batteries), DDT (insecticide), vinyl chloride (used in plastic materials), nicotine and carbon monoxide. Nicotine, one of the main constituents of cigarettes is highly addictive⁴ and it acts as both, a stimulant and a relaxant. On smoking, nicotine rich blood passes from lungs to brain within seven seconds, immediately stimulating the receptors which indirectly promotes release of messengers like acetylcholine, dopamine, serotonin⁵ and increases the brain's reward system to rewarding stimuli.⁶ The half-life of nicotine is two hours.⁷ Specific biochemical markers like nicotine, cotinine, thiocyanate levels in plasma, urine can be used to assess the smoking habit.⁸ According to a study done in the US by Lasser et al. in the year 2002, it was reported that people with history of substance or mental abuse are twice as likely to smoke as compared to those without; in fact 44 % of cigarettes smoked are smoked by this population.⁹ The use of tobacco and its patterns are closely linked to age, sex, social class, education, income and many other factors, also as it is an economic product it has its effect on the economic lives of the society as well. There is evidence that tobacco use is depriving poor households of nutrition, education, and health.¹⁰ Needless to say, India's tobacco problem is a complex matter with variety of smoking forms and an array of smokeless tobacco products. In recent times, the age of initiation of smoking has been seen to start early. Stress, peer pressure, fun and influence were cited to be predominant reasons for harnessing of smoking at workplaces, followed by accessibility of tobacco products near workplaces seemed to have encouraged people to smoke.¹¹ Many studies regarding knowledge and practice on smoking have been done among different target populations like school children, college students but none has been done on the company / factory employees of Chennai. Previously, we have conducted various epidemiological studies / in vitro / in vivo studies for the betterment of the community.¹²⁻²⁷ Therefore, through this study we aim to assess the knowledge, attitude,

and practice of smoking among company and factory employees in Chennai.

METHODS

The cross-sectional study was conducted among the employees of automobile factories in Chennai from July 2018 to November 2018, to assess the knowledge, attitude, and practice of smoking. Those who were above 18 years and above, had a habit of smoking tobacco for a period of 1 year and more (during commencement of study, 2018) and willing to participate in the study were included in the study. Those who have quit the habit for more than a year were excluded from the study. Prior to the start of the study, ethical approval was obtained from Scientific Review Board, Saveetha Dental College. Informed consent was taken from the participants and anonymity was maintained. The sample size (N = 96) was calculated based on a study done by Sood P et al.¹¹ using the formula, $Z\alpha\sqrt{pq} \div L2$, where, $Z\alpha^2 = 3.84$, $p = 80$, $q = (100 - p) = 20$, $L2 = 64$. Thus, according to the formula, the sample size was 96, but rounded off to 100. However, responses for 102 participants were included in the study. A pre-tested, structured, pre-validated and self-administered questionnaire was used for the study. The questionnaire consisted of two parts, the first being the demographic details such as name, age, sex, address, phone number, education, occupation and marital status. The Modified Kuppaswamy scale (2018) was used to assess the socio-economic status of the people. The second part consisted of questions pertaining to the knowledge, attitude, and practice of the participants regarding tobacco usage. After the demographic details, question 1 - 7 assessed the knowledge of the participants regarding smoking, question 8 - 13 assessed the attitude of the participants and question 14 - 18 recorded the practice related to the subject of the participants. The questionnaires were distributed to the participants and collected on the same day.

Statistical Analysis

Data was recorded on Microsoft Excel sheet and analysed using Statistical Package for Social Sciences (SPSS Version 23.0). Descriptive statistics were used to analyse the demographic data. Chi square test was used to test the association between the variables. Pearson correlation test was used to assess the correlation between knowledge, attitude, and pattern of smoking.

RESULTS

The current study consisted of 102 male participants. According to the findings, majority of the participants belonged to 25 - 34 years age group (36.3 %), followed by 18 - 24 years (22.5 %), 35 - 44, 45 - 54 years (16.7 %) and 55 years and above (7.8 %). About 60.8 % of the study participants were married. Based on the education level, 36.3 % were graduates, 22.5 % had done diploma, 22.5 % had passed middle school, 10.8 % had high school degrees. Majority of the study participants were plant and machine operators (26.5

%), followed by professionals (25.5 %). Table 1 shows the responses of the questionnaire pertaining to knowledge and attitude towards tobacco smoking among the study

population. Table 2 records the responses of the study population towards practice of tobacco smoking.

Knowledge Regarding Tobacco Smoking							
	Smoking is Harmful to Health	Smoking Causes Respiratory Diseases	Smoking Causes Cardiovascular Diseases	Smoking Causes Oral Cancer	Smoking Causes Staining of Teeth	Know about Passive Smoking	Smoking is Related to Weight Issues
Yes	72 (70.6)	94 (92.2)	82 (80.4)	85 (83.3)	35 (34.3)	57 (55.9)	10 (9.8)
No	27 (26.5)	4 (3.9)	11 (10.8)	7 (6.9)	44 (43.1)	28 (27.5)	62 (60.8)
Don't know	3 (2.9)	4 (3.9)	9 (8.8)	23 (22.5)	23 (22.5)	17 (16.7)	30 (29.4)
Attitude Regarding Tobacco Smoking							
	Worried Tobacco will Damage Your Health in the Future	You will Benefit from Health if You Quit Tobacco	In Favour of Banning of Smoking in Public Spaces	Interested in Stopping Smoking or Tobacco Related Products	Confidence in Quitting Smoking	Tobacco is Addictive	
Very much	24 (23.5)	35 (34.3)	52 (51.0)	33 (32.4)	29 (28.4)	24 (23.5)	
Somewhat	61 (59.8)	65 (63.7)	49 (48.0)	66 (64.7)	68 (66.7)	59 (57.8)	
Not at all	17 (16.7)	2 (2.0)	1 (1.0)	3 (2.9)	5 (4.9)	19 (18.6)	

Table 1. Responses to Knowledge and Attitude towards Tobacco Smoking among the Study Participants

Questions	Responses
How many cigarettes per day do you smoke?	10 or less 94 (92.2)
	11 - 20 8 (7.8)
What is the average number of cigarettes you have smoked in the past one month?	30 or less 41 (40.2)
	60 or less 33 (32.4)
	90 or less 11 (10.8)
	120 and more 17 (16.7)
Do you use any other forms of tobacco other than cigarettes?	Yes 14 (13.7)
	No 88 (86.2)
Have you taken any step to quit tobacco products?	Yes 54 (52.9)
	No 48 (47.1)
Reason for quitting	Social pressure 18 (17.6)
	Medical reason 14 (13.7)
	Awareness of hazard / addiction 22 (21.6)

Table 2. Responses Regarding Practice of Tobacco Smoking among Study Population

Variables	Illiterate	Primary School	Middle School	High School	Diploma	Graduate	Professional	P Value
Smoking is harmful to health	01 (0.9)	01 (0.9)	21 (20.5)	10 (9.8)	18 (17.6)	27 (26.4)	02 (1.9)	0.049*
Smoking causes respiratory disease	02 (1.9)	02 (1.9)	22 (21.5)	10 (9.8)	21 (20.5)	35 (34.3)	02 (1.9)	0.248
Smoking causes oral cancer	02 (1.9)	02 (1.9)	18 (17.6)	11 (10.6)	20 (19.6)	30 (29.4)	02 (1.9)	0.511
Smoking is related to weight issues	0 (0)	01 (0.9)	01 (0.9)	02 (1.9)	04 (3.9)	10 (9.8)	02 (1.9)	0.091
Smoking causes staining of teeth	00 (0)	02 (1.9)	03 (2.9)	08 (7.8)	10 (9.8)	10 (9.8)	01 (0.9)	0.401
Worried smoking will damage health in future	02 (1.9)	02 (1.9)	07 (6.8)	02 (1.9)	03 (2.9)	20 (19.6)	02 (1.9)	0.201
Favour of banning smoking in public places	02 (1.9)	03 (2.9)	11 (10.7)	06 (5.8)	08 (7.8)	21 (20.5)	02 (1.9)	0.644
Confidence in succeeding to quit smoking	01 (0.9)	02 (1.9)	07 (6.8)	02 (1.9)	07 (6.8)	10 (9.8)	0 (0)	0.901
Tobacco is addictive	01 (0.9)	01 (0.9)	12 (11.7)	02 (1.9)	03 (2.9)	06 (5.8)	01 (0.9)	0.014*

Table 3. Association between Education Level, Knowledge and Attitude towards Tobacco Smoking

Chi square test was used.

A statistical significance was observed between education and knowledge on smoking being harmful to health, *P < 0.05

A statistical significance was observed between education and attitude on tobacco being addictive, *P < 0.05

Variables	Correlation Coefficient (r)	P Value
Knowledge - Attitude	.846	0.0001*
Knowledge - Practice	-.177	0.075
Attitude - Practice	-.178	0.074

Table 4. Correlation between Knowledge, Attitude and Practice Scores.

Pearson correlation test was used. Significant value * P > 0.05. Knowledge and attitude were positively related. However, both knowledge and attitude were negatively correlated with practice of tobacco

Table 3 records the association between education level of the study participants and their knowledge and attitude on smoking tobacco. Based on their responses, a statistically significant value was observed between their education level and knowledge on smoking being harmful to health (P > 0.05).

Association between education level and attitude on smoking shows a statistical significance (P > 0.05) between response to tobacco being addictive and the education level. About 92.2 % of the study participants smoked 10 or fewer cigarettes per day. Table 4 shows the correlation between knowledge, attitude and pattern score.

DISCUSSION

The response rate for the study was 100 %. Nearly, 72.5 % of the total number of participants believed that smoking is harmful to their health, it was similar to other studies.^{28,29} About 92.2 % of the participants had knowledge about smoking and its association with respiratory disease similar to studies done by Prabhu A et al.³⁰ Milcarz M et al.³¹ In the current study, 83.3 % believed oral cancer to be a manifestation of smoking tobacco, which was slightly lower when compared to the study done by Abdul Lateef et al.³² Other studies have also reported higher knowledge on tobacco related to oral cancer.³³⁻³⁶ The fact that tobacco is related to weight issues was unknown to 60.8 % of the participants, evidence reporting tobacco directly related to weight loss is present.^{37,38} In the current study, 61.8 % of the participants had knowledge about passive smoking, similar to other studies.^{36,39}

The association between education level and knowledge on smoking revealed that the higher the education, the more was the knowledge on smoking being linked to systemic diseases like respiratory diseases, cancer, the findings were supported by other studies,⁴⁰⁻⁴² however the knowledge on smoking affecting dental status and weight issues were low among the study population. A statistical significance was observed between education level and opinion on tobacco being addictive, suggesting people with higher literacy level compared to low literacy level, understood that tobacco is highly addictive in nature. Other studies also reported perception on smoking being addictive.^{43,44} Majority of the participants were in favour of banning smoking in public places, as seen in other studies too.⁴⁵⁻⁴⁷ About 92.2 % of the study participants smoked 10 or fewer cigarettes in a day, which was similar in another study.⁴⁸ Out of the 102 participants, 52.9 % had attempted to quit their smoking habit which is higher than the findings of Sakore DN et al.⁴⁹ study where it was recorded that only 11.5 % had intention of quitting and was similar to various other studies.^{50,51} Awareness of physical hazard to smoking was cited as the main reason for attempting to quit smoking. In the current study, studies have reported advice by doctors that health concern has been the main reason. A statistically significant positive correlation was found between knowledge and attitude of the study population, suggesting the participants had a high knowledge and attitude on smoking, however, both were negatively correlated to pattern of smoking, showing that practice of smoking was still prevalent in spite of good knowledge towards implications of smoking. Similar results have been reported in other studies as well where smoking cognition and practice were not correlated.^{55,56}

CONCLUSIONS

Participants with higher education have a better knowledge on hazards of smoking and a more positive attitude. However, the knowledge and attitude does not translate into healthier outcomes like quitting smoking. This highlights the importance of tobacco awareness programs and cessation counselling sessions focused towards changing the practice of smoking.

Data sharing statement provided by the authors is available with the full text of this article at jemds.com.

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