

## Prevalence of tobacco smoking and KAP about smoking among medical students in a private college in Central Kerala


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**Background:** Smoking is a leading cause of preventable death, killing more than 5 million yearly. Smoking among health care personnel such as medical students is an important public health issue. This study was done to understand and in future find effective measures to reduce tobacco smoking among medical students. **Objectives:** To find the prevalence and to assess knowledge, attitude and practice of tobacco smoking among students of a Private Medical College in Central Kerala. **Material and Methods:** Cross-sectional study, using pretested, anonymous questionnaire, was conducted in a private medical college in central Kerala and proportions, test of significance like  $\chi^2$  and t test were used. **Results:** Out of 342 students, 26 (7.6%) were smokers; Males 25 (21.0%, out of 119), females 1 (0.44% out of 223), 72 (21.1%) had ever smoked; of which 60 were males (50.42%) and 12 (5.38%) were females; 82 (24%) had family members who smoked; 196 (57.3%) had relatives who smoked; and 184 (53.8%) had a smoker in their friend circle. 68.4% of students do not like to socialize or engage in activities with smokers. 17 (53.2% of smokers) want to quit smoking; 17 (51.5% of smokers) claimed to have a relapse. **Conclusions:** Smokers are predominantly more between 21-26 years of age. Most of students started the habit of smoking between 16-20 years of age, therefore it is necessary to bring positive behavioral changes through adoption of comprehensive awareness programs on harmful effects of smoking among adolescent school going children.

**Keywords:** KAP, Medical students, Prevalence, Smoking

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## Introduction

Smoking is a problem with worldwide dimension. It is one of the most important causes of pulmonary and cardiac diseases. Government of India has passed a law not just highlighting the dangers of smoking but also banning it in various forms to protect the health of the public [1].

Health professionals, including medical students, should ideally play an important role in the fight against tobacco use but several reports suggest that a good number of medical students are themselves addicted to tobacco. We need to take steps to stop its use by them so as to prevent them from being exposed to its hazardous effects. This will also make their role in the advocacy of the smoking cessation activities more trustworthy [2].

As medical students, who are usually in their adolescence, progress through the medical school, their behavior regarding the use of tobacco equals or even exceeds the rates in the non-medical peer groups, despite their knowledge of smoking-related diseases. As such, many researchers have historically investigated tobacco-smoking rates among this demographic group [3].

As future physicians who will witness the continued burden of smoking-related diseases among their patients, medical students represent a primary target for tobacco-prevention programs. A recent study in Kerala showed that substantial proportion of physicians and medical students continue to smoke [3].

Over the past 60 years many studies have been done, in which recent studies among medical students show- Prevalence of smoking in south India was found to be 22.4% [2]; In Orissa in the year 2005 the prevalence of smoking was 8.7% [3]. The prevalence of smoking among tobacco users (28.8%) was found to be 87.5% in a study conducted in Lucknow in the year 2008 [4]. In a study done in Allahabad prevalence of smoking was 33% out of 560 responders [5]. Prevalence of smoking was observed as 5.5% in Kannur district of Kerala in the year 2011 [6]. There was 32.55% prevalence of smoking in Maharashtra in the year 2008 [7].

This study was done to understand the magnitude of current smoking scenario and to find effective measures to reduce tobacco smoking among medical students in future.

## Aims and Objectives

To study the prevalence of tobacco smoking among students of a Private Medical College in Central Kerala and to assess knowledge, attitude and practice of tobacco smoking among students.

## Material and Methods

A cross-sectional study was designed in a private medical college in Central Kerala and covered all the students in the month of November 2015.

Permission for the study was taken from Institutional Research Committee and Institutional Ethics Committee. Data was collected using a pre-tested, anonymous, questionnaire. The students were briefed about the purpose of the study; their consent was obtained before filling the questionnaire. They were reassured about the anonymity and confidentiality of the information. The collected data was tabulated using MS Excel and analyzed using Epi Info 7. Significance was found using  $\chi^2$  test and t-test.

## Results

**Demographic profile:** Responses from 342 students were included in the survey. The mean age of our study subjects was 20.80 years. Among the total responders, 119 (34.8%) were males and 223 (65.2%) were females; 16 (19.9%) were Christians, 226 (66.1%) were Hindus and 48 (14.0%) were Muslims; 170 (49.7%) were from rural area and 172 (50.3%) were from urban area; 34 (9.9%) were day scholars and 342 (90.1%) were hostellers.

**Prevalence:** Out of 342 students, 26 (7.6%) were smokers; Males 25 (21.0%) out of 119, female 1 (0.44%) out of 223. Seventy two (21.1%) had ever smoked; of which 60 were males (50.42%) and 12 (5.38%) were females. Out of 72 ever-smokers, the age for trying cigarettes was under 10 years for 10 (13.88%), 11 to 15 years for 12 (16.66%), 16 to 20 years for 31 (43.05%) and for 21 years old or above for 19 (26.38%). Out of 342, 82 (24%) had family members who smoked; 196 (57.3%) had relatives who smoked; and 184 (53.8%) had a smoker in their friend circle.

**Knowledge:** See table 1 for knowledge of students about facts associated with smoking.

**Attitude:** Seventeen (53.2%) want to quit smoking and 7 (2.2%) want to start smoking. For other things in attitude see table 2.

**Table-1: Knowledge related to Smoking. (N=342.)**

Knowledge About	Not Aware (%)	Aware (%)
Carcinoma of lung, gums & Oral Cavity	1 (0.3)	341 (99.7)
Smoking leads to Sterility	32 (9.4)	310 (90.6)
Harmful effect of Passive Smoking	7 (2.0)	335 (98.0)
Cigarette contains Harmful Substances like Nicotine & Tar	2 (0.6)	340 (99.4)
Statutory Warning given on cigarette packets	3 (0.9)	339 (99.1)
Smoking in Public Places is illegal	3 (0.9)	339 (99.1)
Quitting smoking good for health	14 (4.1)	328 (95.9)

Pathological Changes will Reverse if Smoking Stopped	41 (12.0)	301 (88.0)
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**Table-2: Attitude about Smoking**

Attitude	Positive Response (%)
Quit Smoking Programs will help in successfully quitting smoking	249 (72.8)
Smoking Gives Pleasurable Feeling	31 (9.1)
Smoking Relieves Stress	29 (8.5)
Smoking Increases Focus and Concentration	13 (3.8)
Smoking gives a Feeling of Relaxation	32 (9.4)

**Table-3: Association of Smokers and Nonsmokers with various factors (N=342)**

Variables		Smoker (%)	Nonsmoker (%)	χ <sup>2</sup>	P value
Sex	Female	1 (0.4)	222 (99.6)	46.694	0.000
	Male	25 (21.0)	94 (79.0)		
Age	Young (17-20 Years)	3(2.2)	134(97.8)	9.532	0.002
	Older (21-26 Years)	23(11.2)	182(88.8)		
Smoker in the family	Yes	12 (14.6)	70 (85.4)	7.593	0.006
	No	14 (5.4)	246 (94.6)		
Relative Smoker	Yes	22 (11.2)	174 (88.8)	8.575	0.003
	No	4 (2.7)	142 (97.3)		
Smoker in Friend Circle	Yes	26(14.1)	158(85.9)	24.163	0.00
	No	0(0.0)	158(100)		
Smoking Program can Help Quit	Yes	12 (4.8)	237 (95.2)	10.097	0.001
	No	14 (15.1)	79 (84.9)		
Smoking Pleasant Feeling	Yes	14 (45.2)	17 (54.8)	62.708	0.000
	No	12 (3.9)	299 (96.1)		
Smoking Relieves Stress	Yes	12 (41.4)	14 (58.6)	46.345	0.000
	No	14 (4.5)	299 (95.5)		
Smoking Increases Focus & Concentration	Yes	8(61.5)	5(38.5)	48.26	0.000
	No	18(5.5)	311(94.5)		
Smoking Gives Relaxed Feeling	Yes	20(62.5)	12(35.5)	142.966	0.000
	No	6(1.9)	304(98.1)		

**Practice:** Among the smokers, 22 (78.57%, mild smokers) were smoking less than 10 cigarettes per day, 3 (17.85%, moderate smokers) were smoking 10 to 20, and 1 (3.5%) was severe smoker, smoking more than 20 cigarettes per day. Among the smokers, 22 (73.3%) were spending less than 100 rupees and 4(26.7%) were spending more than 100 rupees per day.

Eleven (3.2% of the total and 34.37% of smokers) claimed to smoke in the college campus outside the hostel. Fifteen (4.4% of total and 46.89% of smokers) have thought of quitting smoking in the last one month and the same applies for attempt to quit in the last one year.

Four (1.2% of the total and 12.5% of smokers) never share their cigarette, eight (2.3% of the total and 25% of the smokers) sometimes share their cigarette with someone else, and 20 (5.8% of the total and 62.5% of the smokers) usually share their cigarettes with their friends.

Thirteen (3.8% of the total and 40.63% of the smokers) considered themselves to be social smokers as compared to 19 (5.6% of the total and 59.37% of the smokers) considered themselves to be regular smokers. Out of 342 (100%) of the subjects, only 108 (31.6%) like to socialize or engage in activities with smokers.

## Discussion

**Prevalence:** This study showed a prevalence of 7.6% total; 21.0% for male subgroup and 0.44% for females. Study by Joge *et al* show a prevalence of 32.5%, which was from Maharashtra state and study by Ganesh Kumar *et al* in 2011 shows a prevalence of 22.4% from Kerala among male medical students, this can be compared with our study [2][8]. The prevalence in girls is 0.44% and for ever-smoked the prevalence is 5.38% which reflects the change in culture that is showing up these days. We also see that 67.43% of the hostellers had tried smoking between the ages of 16-26 years. Similar findings were observed in the study of Swathy *et al* among medical students where prevalence of smoking among hostellers was found to be 68.27%.

**Knowledge:** In our study, more than 95% of the responders are strongly aware of the hazardous effects of smoking. The knowledge of awareness about sterility caused by smoking and reversal of pathological changes in 10-15 years of quitting smoking was lacking in 32 (9.4%) and 41 (12.0%) of students, respectively, was a major finding. In a study conducted by Chatterjee among medical and non-medical students of Kolkata, 98% of smokers among medical students had knowledge on the harmful effects of smoking. In a similar study by Al Haqwi *et al* in Riyadh, 94% of the study sample indicated that smoking could cause serious ill effects.

**Practice:** Most smokers were mild or moderate smokers, smoking less than 20 cigarettes a day and were spending less than Rs. 100/- per day on smoking. Unlike us, Gupta *et al* found that students were spending more than Rs 200/- per month [9]. Eleven (3.2% of the total and 34.37% of smokers) claimed to smoke on the college property excluding the hostel, even though smoking is completely banned on the college property, outside the hostel. Harini Priya *et al* showed that approximately 47% of current smokers had smoked on college property. [10] Unlike Ganesh Kumar *et al*, we did not find that students from rich families are more likely to be smokers, but like them we did find those with family history of smoking are more likely to smoke [2].

Thirteen (3.8% of the total and 40.63% of the smokers) considered themselves to be social smokers as compared to 19 (5.6% of the total and 59.37% of the smokers) considered themselves to be regular smokers.

There is no student who suffers serious nicotine addiction or functional impairment, as none opted for the choice of having the need to smoke every hour.

**Attitude:** More than half the smokers in our study (53.2%) want to quit smoking. Aggarwal *et al*, showed that 68.75% current smokers would try to quit smoking in the future.[8] Likewise, Swathy *et al* found 63.13% and Joge *et al* observed 42.03% of their study subjects wanting to quit smoking.[7] [11]

In the present study, last one year after quitting smoking 51.5% of smokers who tried quitting, had relapse. This clearly shows that half the smokers are not happily adjusted to their smoking habit and have tried to quit. Similarly, Harini Priya *et al* found majority of the current consumers (60%) had attempted to quit but 56.92% had again restarted the habit of tobacco consumption.[10]

## Conclusions & Recommendations

In the present study, prevalence of smoking was found to be 7.6%. Besides, it was observed that smoking habit is more among males (21% of total males). Smokers are predominantly between 21-26 years of age. It was also seen that 53.2% of smokers wanted to quit smoking. Most of students started the habit of smoking between 16-20 years of age, therefore:

It is necessary to bring positive behavioral changes through adoption of comprehensive awareness programs on harmful effects of smoking among adolescent school going children. Those who are severely addicted to smoking can be encouraged to join de-addiction programs. Initiation of health campaigns among medical students to remind them of the hazardous effects of smoking and its addictions, with the involvement of departments of Community Medicine and Psychiatry.

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