

# Cigarette Smoking and Cessation Perception in Student Population in India: An E-Survey

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## ABSTRACT

**Background and objectives:** Cigarette smoking is one of the major types of tobacco consumption seen worldwide. It contains the highest number of carcinogens and is associated with various forms of cancer. The early initiation of smoking is a cause of addiction and causing greater harm in younger population. Hence, this study aimed to evaluate the patterns of cigarette smoking and cessation perception in college students in India.

**Methods:** 1009 participants between the ages of 18 to 30 years were recruited in the study. Self-designed questionnaire was prepared in the form of Google forms and links were posted on social media (including E-mails, Whatsapp, Instagram and Facebook).

**Results:** Out of 1009 participants 54.2% (n=547) 72.22% males and 24.27% females smoked cigarettes. 68.55% smokers were between the ages of 22 to 26 years. 67.1% smoked for the first time when they were in the age group of 18 to 21 years. More than 60% were daily smokers consuming 1 to 5 cigarettes/day. 38.19 of the participants wished to stop smoking and around 62% of the participants had never made and attempt to quit.

**Conclusion:** The present study demonstrated that more than half of Indian college students who participated in the study smoked cigarettes with the number of males being significantly higher than females. The study suggests for more tobacco prevention and cessation programs to be undertaken targeting the Indian student population leading to cancer prevention in later years of life.

**KEY WORDS:** Cigarette Smoking, Cessation, Students.

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## INTRODUCTION

Tobacco is one of the most prevalent causes of deaths worldwide leading to premature death and disease globally and also major cause for cancer [1]. Consumption of tobacco can be in various forms, that can be smoking or in smokeless form.

Tobacco in form of smoking cigarettes, Hookah, cigars, Vapor (electric cigarettes) is

commonly seen in parts of Europe, America, Australia and Asia [2]. In India tobacco is smoked mainly in form of Cigarette, Hookah, Beedi or in a pipe [3]. Cigarette smoking is one major type of tobacco consumption seen worldwide. Cigarettes contain the highest number of carcinogens than any other smoked form tobacco. Therefore it is considered as the most dangerous form of tobacco consumption

as it causes passive smoking [4].

It contains nicotine, which is addictive and it also contains more than thousand carcinogenic agents amongst which 401 are poisonous substances like cyanide and 43 are carcinogenic agents. Smoking not only harms the smoker but also the people around, like family members, co-workers, friends etc. Tobacco use is one of the most leading cause for diseases such as Chronic Obstructive Pulmonary Disease and Chronic Restrictive Pulmonary Disease [5].

Consumption of tobacco has various ill effects, including death from cancer, heart diseases, stroke and others [6]. Tobacco contains of addictive stimulant that are considered as cancer causing carcinogens which includes of alkaloid nicotine, formaldehyde, lead, arsenic, ammonia, benzene and nitrosamines. Radioactive materials in tobacco leaves is used to make cigarettes and cigars. Use of e-cigarettes is also increased in recent years, mostly in youth population. It is seen in recent studies that tobacco kills one person every six seconds worldwide [5]. The rate at which young people start smoking is very high. The youth may not be able to grasp the consequences of smoking in the long term, although significant negative health effects due to smoking and exposure to smoke have been observed.[7] According to the World Health Organization (WHO) about 5 million people all around the world die prematurely due to tobacco consumption. It is predicted that by 2030 the number of deaths caused due to tobacco consumption will rise to 10 million.[8] India is the third largest producer of tobacco in the world and is a country where tobacco is consumed in various forms.[9] The fastest rate of rise in cases of death due to tobacco consumption will be seen in India if the rate of consumption is not reduced [5,8].

The patterns of smoking differ, in urban, semi-urban and rural areas and depending on the Lifestyle, profession, age, gender, etc. According to the studies the people with low economic status are less likely to be successful in attempt to quit smoking as there is less knowledge and awareness, there is less community support for quitting, less

motivation from friends and family, more economical stress, and strong addiction, no available resources such as nicotine gum/ nicotine patch, etc. On the other hand, these problems are not faced by people of higher standard of living, and there is availability of resources in need therefore tobacco cessation is more likely to be successful in upper class people [2]. Cessation of smoking depends on many factors that can be personal and social. Many smokers make several attempts to quit smoking but fail to stay abstinent [10].

The early age initiation of smoking is majorly the cause for addiction effects. Research has shown that number of teens smoking cigarettes is higher than any cohort. The reason for early smoking according to recent studies are peer pressure, parental smoking habits, actors consuming tobacco and advertisements. Also there is less awareness about the harmful effects therefore tobacco cessation rate is very low in this group [11].

Addictions that are developed at a young age are mostly persist further in life. According to Indian literature very few studies have been conducted to assess the patterns and cessation of smoking perceptions in student population in India especially in college going students. Therefore this suggested a need to carry out a study to learn the pattern of smoking in student population that may further help to create awareness of health hazards related to cigarette smoking [12]. Hence, the objective of the present study aimed to assess the patterns of cigarette smoking and cessation perception in college students in India.

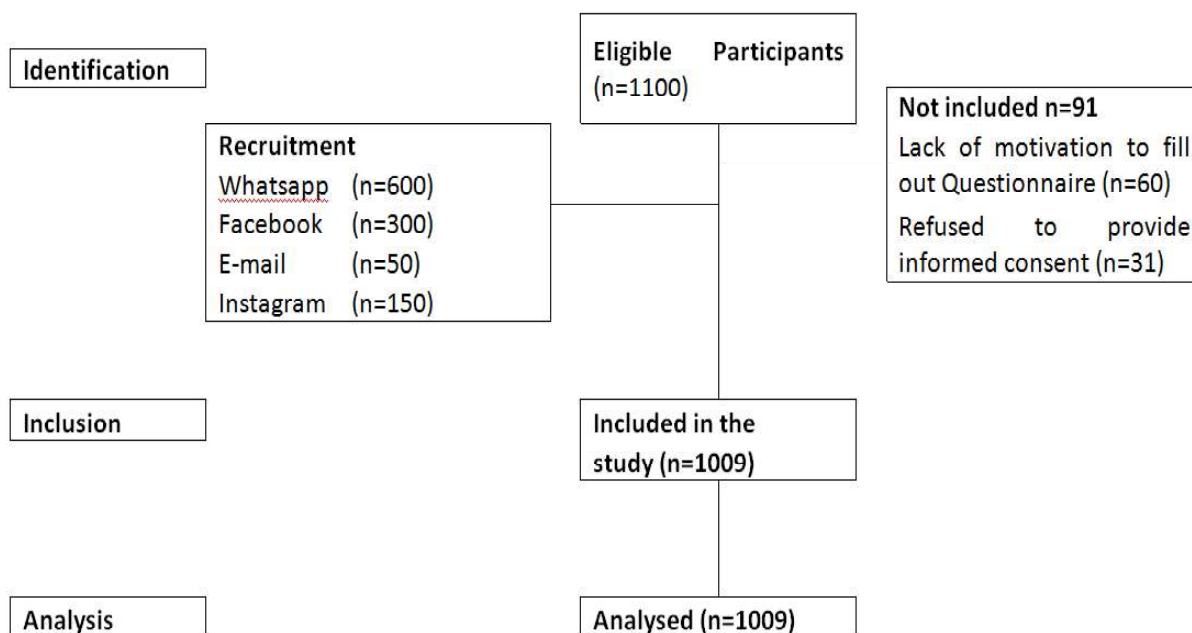
## **METHODS**

An E-survey was conducted in the month of August 2020 among college students across India. The sampling method used for recruitment was open-ended sampling for 2 weeks. Participants in the age group of 18 to 30 years were eligible for the survey and informed consent was obtained in the e-form proceeded to fill the Google Form.

## **RESULTS**

The total number of participants in the study was 1009 out of which 63.44% (n=630) were

**STROBE Flow Diagram**



males and 37.56% (n=379) were females. Majority of the participants i.e. 57.28% (n=578) were between the ages of 22 to 26 years. 33.2% (n=335) of the participants were from medical field followed by engineering field who were 32.31% (n=326) (Table 1).

Out of the 1009 participants, 54.21% (n=547) smoked cigarettes [n=455 males & n=92 females]. 67.09% (n=367) reported that they smoked for the first time between 18-21 years. When asked about their reasons for smoking, 31.62% participants feel the need to smoke cause they believe it helps them relieve their tension. When questioned about the frequency of smoking, 67.09% (n=367) reported that they smoke daily [n=318 males & n=49 females]. When asked about the quantity of cigarette smoking per day, 61.79% participants reported smoking 1-5 cigarettes per day (Table 2).

Amongst the total no of students who participated in the study 38.19% (n=270) students wish to stop smoking and 33.08% (n=239) do not wish to stop smoking. When questioned about attempts, 62.41% (n=440) have never tried to quit. When asked about how long they managed to remain smoke-free, 18.58% (n=131) students could stay without smoking for less than a day. When the students were questioned about methods used to quit smoking, 26.11 % (n=183) used nicotine

gum/ patch. When questioned about taking help from Health care professionals 88.14% (n=617) responded (Table 3).

578 students belonged to the age group of 22-26 years out of which 375 students were cigarette smokers (p=0.0001). Out of the total participants 335 students belonged to Medical stream, out of these 87 students smoke cigarettes. 326 students belonged to Engineering out of which 216 students were smokers (p=0.0001) (Table 4).

**Table 1:** Demographic Profile Of all the participants in the study.

Gender	Number	%
Male	630	62.44
Female	379	37.56
<b>Total</b>	<b>1009</b>	<b>100</b>
Age		
18 to 21 years	263	26.07
22 to 26 years	578	57.28
27 to 30 years	168	16.65
<b>Total</b>	<b>1009</b>	<b>100</b>
Education		
Medical	335	33.2
Engineering	326	32.31
Architecture	88	8.72
Commerce	184	18.24
Arts	54	5.35
Others	22	2.18
<b>Total</b>	<b>1009</b>	<b>100</b>

**Table 2:** Information on Cigarette smoking of all the participants in the study.

Do you smoke Cigarettes?	MALE	%	FEMALE	%	TOTAL	%
YES	455	72.22	92	24.27	547	54.2
NO	175	27.77	287	75.72	462	45.8
<b>TOTAL</b>	<b>630</b>		<b>379</b>		<b>1009</b>	
<b>At what age did you first smoke?</b>						
Less than 15 years	20	4.39	3	3.26	23	4.2
15-17 years	107	23.51	20	21.73	127	23.2
18-21 years	310	68.13	57	61.95	367	67.1
More than 21 years	18	3.95	12	13.04	30	5.48
<b>TOTAL</b>	<b>455</b>		<b>92</b>		<b>547</b>	<b>100</b>
<b>Why do you feel the need to smoke?</b>						
Peer Pressure	14	9.03	6	6.52	20	3.65
Fashion/Trend	135	29.67	23	25	158	28.8
Fun	113	24.83	26	28.26	139	25.4
Relieves my tension	149	32.74	24	26.08	173	31.6
Makes me feel relaxed	39	8.57	12	13.04	51	9.32
Other	5	1.09	1	1.08	6	1.09
<b>TOTAL</b>	<b>455</b>		<b>92</b>		<b>547</b>	<b>100</b>
<b>How many days do you smoke in a month?</b>						
Daily	318	69.89	49	53.26	367	67.1
Alternate Days	62	13.6	9	9.78	71	13
Twice a week	39	8.57	7	7.6	46	8.4
Once a week	16	3.51	4	4.34	20	3.65
Once in 2 weeks	3	0.65	5	5.43	8	1.46
Once a month	15	3.29	15	16.3	30	5.48
Other	2	0.43	3	3.26	5	0.91
<b>TOTAL</b>	<b>455</b>		<b>92</b>		<b>547</b>	<b>100</b>
<b>On the days that you smoke, how many cigarettes do you smoke per day?</b>						
Less than 1	44	9.67	10	10.3	54	9.87
1 to 5	286	62.87	52	36.52	338	61.8
6 to 10	96	21.09	22	23.91	118	21.6
11 to 15	14	3.07	5	5.43	19	3.47
16 to 20	2	0.43	0	0	2	0.36
More than 20	13	2.85	3	3.26	16	2.92
<b>TOTAL</b>	<b>455</b>		<b>92</b>		<b>547</b>	<b>100</b>

**Table 3:** Information on Tobacco Cessation amongst participants in the study.

Do you wish to stop smoking?	Number	%
Yes	270	38.19
No	239	33.8
Don't know	85	12.02
Later Age	113	15.98
<b>TOTAL</b>	<b>707</b>	<b>100</b>
<b>During the past 12 months how many times did you attempt to quit smoking?</b>		
I did not try to quit	440	62.41
1 to 2 times	177	25.11
3 to 5 times	73	10.35
6 to 10 times	8	1.13
More than 10 times	7	0.99
<b>TOTAL</b>	<b>705</b>	<b>100</b>
<b>When you last tried to quit how long could you stay without smoking?</b>		
I did not try to quit	439	62.27
Less than a day	131	18.58
1 to 10 days	92	13.05
11 to 20 days	9	1.28
20 to 30 days	7	0.99
More than 30 days	27	3.83
<b>TOTAL</b>	<b>705</b>	<b>100</b>
<b>In the past 12 months did you do any of the following to help you quit using smoking for good?</b>		
I did not try to quit	440	62.77
Used nicotine gum/nicotine patch	183	26.11
Visited an internet quit site	10	1.43
Got help from family or friend	17	2.43
Tried to quit on my own	51	7.28
<b>TOTAL</b>	<b>701</b>	<b>100</b>
<b>Have you approached any health care professional to help you quit smoking?</b>		
YES	75	10.71
NO	617	88.14
Doesn't Help	8	1.14
<b>TOTAL</b>	<b>700</b>	<b>100</b>

**Table 4:** Association of demographic variables and the habit of smoking cigarettes of all the participants in the study.

Do you smoke cigarettes?	Yes	%	No	%	Total	%	$\chi^2$	p-value
<b>Gender</b>								
Male	455	72.22	174	27.62	630	62.43	220.129	0.0001*
Female	92	24.27	287	75.73	379	37.56		
<b>Age groups</b>								
18-21 years	56	10.23	207	44.8	263	26.06	156.75	0.0001*
22- 26 years	375	68.55	202	43.72	578	57.28		
27-30 years	116	21.2	52	9.5	168	16.65		
<b>Streams</b>								
Medical	87	15.9	248	53.67	335	33.2	180.763	0.0001*
Engineering	216	39.48	110	23.8	326	32.3		
Architecture	69	12.61	18	3.89	88	8.72		
Commerce	137	25.04	47	10.17	184	18.23		
Arts	29	5.3	25	5.41	54	5.35		
Others	9	1.64	14	3.03	22	2.18		
Total	547	100	462	100	1009	100		

Level of significance- \*p<0.05

## DISCUSSION

In the present, era smoking in the Indian student population has drastically increased due to various factors. The findings of our study revealed that 54.21% of student population smoked cigarettes. According to our study maximum student belonging to age group of 22 to 26 years of age smoked the highest. Among the male student population 32.7% smoked to relieve tension and 28.6% of female population smoked for fun. Engineering students were the leading population for smoking. The most influencing factor for the student population was watching movies. Among the smokers, majority of them never made an attempt to quit.

Abigail C. Halperin et.al in their health screening survey of cigarette smoking and associated health risk among students in 5 universities founded that nearly quarter of students reported current smoking, 41% of whom reported smoking less than 1 cigarette/day and of the daily smokers 80% smoked less than 10 cigarettes/day [13]. In our study 54.21% of the students reported current smoking out of which 67.09% smoked daily, 69.79% smoked 1 to 5 cigarettes/day and 21.57% smoked 6 to 10 cigarettes/day. Only 9.87% reported consuming less than 1 cigarette/day.

Chadda RK et.al in their systematic review of tobacco use in Indian adolescent reported the

prevalence of smoking in male students was 6.9% to 22.5% and in female student it was 0 to 2.3%.[14] In our study of college students we found the prevalence of smoking in male students to be 72.22% and in female students it was 24.27%. As our survey was among college students they are more likely to be smokers as compared to adolescents due to various factors such as comparatively less exposure, less stress etc. A comparison between both studies show a very rapid increase in the prevalence of smoking especially among males which can be attributed to the fact that males are more susceptible to peer pressure and easily influenced compared to girls.

A study conducted by David T. Levy which explored the relationship of smoking cessation to socio demographic characteristic, smoking intensity and tobacco control policies reported that younger, higher socioeconomic status and less intense daily smokers were more likely to make quit attempts [15]. Studies reported that 38% of smokers have intention to quit but only 11% had intention to quit within the next 6 months [16]. A study also reported that 70.63% of students in that study planned to be a non-smoker in the future [17]. We explored this topic in more detail and found that 38.19% of current smokers wish to stop. Many of them tried to quit 1 to 2 times in last 12 months

and could only stay for less than a day without smoking. Of the participants who tried to quit, most of them used nicotine gum/patch. A vast majority i.e. 88.14% have not approached a health care professionals to help quit tobacco.

Studies have shown that multiple determinants of tobacco consumption included marriage, price, marketing strategies, socioeconomic status and population growth. Tobacco burden also included economic and social cost and the adverse health effects resulting from oral cancer. In India, in spite of tobacco control policy tobacco consumption has greatly increased and thus demonstrates a strong need of anti-tobacco campaign which includes awareness of side effects of tobacco consumption and active involvement of work sites and health professionals to promote tobacco cessation.

There is little scientifically sound evidence for pattern and cessation of smoking in student population in India additional information about side effects will be beneficial to the student population and health care providers. The present study evaluated various patterns of cigarette smoking and the need and influence of smoking in the student population. This can prove beneficial to the government or to organizations planning to conduct a tobacco cessation program or an anti-tobacco drive as this study will help them understand the specificity of the problem and will enable them to focus more resources where, deemed necessary.

The limitation of this study is that for some people the questionnaire seemed too long but it was necessary for detailed assessment and for obtaining accurate results.

## CONCLUSION

In a nutshell, the survey revealed that the majority people who consumed smoked were from the age group between 22-26 years. 57.28% of the 1009 participants smoked cigarettes.

Herein, the age group that showed the extreme inclination towards smoking were participants between 22-26 years from the engineering sector. A holistic approach is of

utmost importance to educate this particular age group by different ways like tobacco cessation and control programs. People should be made aware of ill-effects like oral & throat cancer, head & neck cancer, and lung cancer caused due to smoking.

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