

Knowledge, Attitude, and Behavioral Determinants of Tobacco Usage among College-going Students of Chittorgarh City

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Abstract

Background: Tobacco behavior among youth is an extremely complex area in India. An estimated 5, 500 youth start using tobacco every day. The use of smokeless tobacco, such as gutkha (an inexpensive chewing tobacco), is most popular among youth, followed by cigarette and bidi smoking (a hand-rolled, filter-less cigarette). The prevalence of smoking and tobacco use in India has been inadequately reported. There is an urgent need for youth-focused intervention. The present study was conducted to assess the knowledge, attitude, and behavioral determinants of tobacco usage among college students. **Materials and Methods:** The present cross-sectional study was conducted to assess the knowledge, attitude, and behavioral determinants of tobacco usage among college students in Chittorgarh city. Among the total study population of 500 subjects, 281 (56.2%) were male and 219 (43.8%) were female, aged between 22 and 24 years. The study subjects were interviewed using a structured, pretested, close- and open-ended questionnaire. Statistical analysis was performed using the Statistical Package for the Social Sciences version 20. Descriptive analysis was used to assess the distribution of responses to all study variables, and the association between dependent and explanatory variables was assessed using the Chi-square test. Statistical significance was set at $P < 0.05$. **Results:** Among the total study population of 500 college students, 0.281 (56.2%) were male and 219 (43.8%) were female. According to age distribution, 151 (30.2%) study participants belonged to the age group of 22 years, 182 (36.4%) to 23 years, and 167 (33.4%) to 24 years. All study participants responded to the harmful effects of smoking. 94.4% believed that smoking is definitely harmful to health. When asked about their attitude toward starting smoking, 96.6% had a negative attitude. Only 0.3% (15) of participants were smokers. When asked about quitting smoking, 53.3% expressed interest. **Conclusion:** The study provides useful insights into the factors to be considered when planning adolescent anti-smoking programs in this and similar settings. College-based awareness programs followed by cessation initiatives utilizing peer pressure should be implemented so that students can resist pressure to use tobacco. Such smoking prevention programs may focus on modifying attitudes toward smoking and providing a cigarette-free environment in and around the college campus.

Keywords: Attitude, Behavioral determinants, College students, Tobacco.

INTRODUCTION

Tobacco use has long been known as a detrimental factor for general health.^[1] The role of smoking in the development of lung cancer, chronic obstructive pulmonary disease, and cardiovascular diseases has been established since the middle of the last century.

The World Health Organization estimates that nearly 5.4 million deaths can be attributed to tobacco usage every year. This figure is likely to increase to 20 million deaths by 2030. Furthermore, nearly three-fourths of these deaths will be occurring in low- and middle-income countries of the world. Thus, tobacco use has become one of the major challenges to public health today.^[2]

Tobacco use is typically woven into everyday life, and can be physiologically, psychologically, and socially reinforcing. Many factors, including media depictions and cultural and societal acceptance of tobacco use, combined with tobacco's addictive capacity, are making tobacco usage more prevalent.^[3]

Children in schools are in a period of transition between adolescence and adulthood, where behavior is influenced by

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accelerated changes affecting biological, emotional, cognitive, and social functions. Students are vulnerable to tobacco addiction.^[4] Unhealthy behaviors developed at this stage may be malleable or consolidated into lifetime patterns.^[5] Moreover, adolescents and young adults of colleges and schools are often targeted by the tobacco industry for marketing. The risk factors for initiation of smoking in young adults or adolescents are as follows:^[6]

- Low socioeconomic status
- Smoking by parents or guardians and/or lack of parental support or involvement
- Use and approval of tobacco by peers and siblings
- A perception that tobacco use is the norm
- Low academic achievement
- Low self-esteem or self-image
- Lack of skills to resist influences promoting tobacco use
- Exposure to smoking in movies
- Accessibility, availability, and cost
- Aggressive behavior.

Tobacco behavior among youth is an extremely complex area in India. An estimated 5,500 youth start using tobacco every day in India.^[7] The use of smokeless tobacco, like gutkha (an inexpensive chewing tobacco), is most popular among youth, followed by cigarette and bidi smoking (a hand-rolled, filterless cigarette).^[8] The prevalence of smoking and tobacco use in India has been inadequately reported. There is an urgent need for youth-focused intervention.

Therefore, the present study was conducted to assess the knowledge, attitude, and behavior determinants of tobacco usage among college students (23–25 years) in Chittorgarh. The present study was conducted to assess the knowledge, attitude, and behavior determinants of tobacco usage among college students.

MATERIALS AND METHODS

Study design and population

A descriptive cross-sectional study was conducted among college students aged 22, 23, and 24 years of Chittorgarh city, Rajasthan, India, in the month of September 2019.

Ethical approval and official permission

The ethical clearance was obtained from the institutional review board of Pacific Dental College and Hospital, Udaipur. The required official permission to select and collect relevant data from subjects was solicited and obtained from the principal of the college. Informed consent was obtained from participants after explaining the purpose of the study.

Pilot study

A pilot study was conducted on a sample of 100 participants. This was done to determine the feasibility of the study, the applicability and accuracy of the questionnaire, and to determine the amount of time required for the interview.

$$N = \frac{Z^2 \times p(1-P)}{E^2}$$

The sample size determination was carried out using the formula,

Where $Z = 95\%$ confidence interval (CI) = 1.96 $P = 0.5$ (precision)

$E = 4.5\% = 0.045$ (standard error)

$= 484 \approx 500$

$$N = \frac{1.96 \times 1.96 \times 0.5(1-0.5)}{0.045 \times 0.045}$$

After conducting the pilot study, the CI was set at 95% with a margin error of 4.5%.

On the basis of the pilot survey, the sample size was fixed at 500.

Methodology

There are 6 colleges. From that one college is randomly selected using a simple random technique.

The study subjects were interviewed using a structured, pretested, close- and open-ended questionnaire. The participants were interviewed about their experience with tobacco, perception of tobacco smoking, exposure to tobacco, perception of tobacco smoking, exposure to tobacco advertising in the media, whether they were taught in college about the harmful effects of tobacco use and smoking, attempts to stop smoking, and attitudes toward cessation of smoking. The entire questionnaire was explained to the students, and total confidentiality was assured. Study participants were instructed to answer each question, considering the sensitivity of the topic.

Interviews were scheduled during working hours of college to ensure the presence of the students. On average, 20–30 subjects were interviewed each day. Interview with each individual took approximately 10–15 min.

Statistical analysis

The data were entered into the computer and were subjected to statistical analysis using package Statistical Package for the Social Sciences version 20. Descriptive analysis was used to assess the distribution of responses of all study variables, and the association between the dependent and explanatory variables was assessed using the Chi-square test. Statistical significance was set at $P < 0.05$ for the study.

RESULTS

Table 1 shows the distribution of the study population according to demographic variables. Among the total study population of 500 college students, 281 (56.2%) were males and 219 (43.8%) were females. According to age distribution, it was observed that 151 (30.2%) study participants belonged to the age group of 22 years, 182 (36.4%) to the age group of 23 years, and 167 (33.4%) to the age group of 24 years.

Table 2 shows smoking-related knowledge among different age groups. All the study participants responded to the harmful

effects of smoking. 94.4% of the study population believed that smoking is definitely harmful to health, with 30.51%, 36.02%, and 33.47% of 22-, 23-, and 24-year-old, respectively. Only 4.2% believed that smoking is not harmful to health.

Around 60.8% reported that family members have discussed the harmful effects of smoking, while 39.2% said that such discussions have not taken place.

44% of the study population thought that smoking does not help in gaining or losing weight. However, 46.4% believed that smoking helps in losing weight.

90.8% of the study population agreed that passive smoking is injurious to health, while a small percentage (2.4%) thought that it would not have any harmful effect.

Sixty-one percent of students reported that smoking is not an acceptable way to relax, whereas 39% considered it a way to

relax. In addition, 67.6% believed that tobacco use does not increase popularity among peers, whereas 32.4% thought it does.

Table 3 shows smoking-related attitudes among different age groups. When asked about their attitude toward starting the smoking habit, 96.6% expressed a negative attitude, with only 0.6% showing a positive attitude. About 82.8% displayed strong support for banning smoking in all public places, compared to 10.4% who opposed such bans.

Over 40.2% believed that smoking does not help in social acceptance into a friend circle, most of whom (36.82%) were aged 23 years, while 39% believed that smoking aids social acceptance. This difference was statistically significant ($P = 0.00$).

Furthermore, 96.8% of the study population, predominantly 23-year-old (35.95%), were unwilling to accept cigarettes from their best friends. Among the participants, 83.8% thought that a man who smokes lacks confidence, and only 10.4% considered a man who smokes to be cool.

Table 4 shows smoking-related behavioral determinants among different age groups. Out of the total study population, only 0.3% (15 participants) were smokers. When asked about quitting smoking, 53.3% expressed interest, a finding that was statistically significant.

A 23-year-old showed the most interest in quitting but made few efforts to do so. Around 40% of the study population attempted to stop smoking, while 60% had not tried to quit.

Table 1: Age and gender - and gender-wise frequency distribution of the study population

Variable	Number (n)	Total (%)
Age (years)		
22	151	30.2
23	182	36.4
24	167	33.4
Gender		
Male	281	56.2
Female	219	43.8

Table 2: Smoking-related knowledge among different age groups

Variable	22 years %	23 years%	24 years %	Total	P-value
Smoking is harmful to your health					
Yes	144 (30.5)	170 (36.0)	158 (33.5)	472 (94.4)	0.6454
No	4 (19.1)	9 (42.9)	8 (38.1)	21 (4.2)	
Don't Know	3 (42.9)	3 (42.9)	1 (14.3)	7 (1.4)	
Family discussed the harmful effects of tobacco with you.					
Yes	90 (29.6)	113 (37.2)	101 (33.2)	304 (60.8)	0.8937
No	61 (31.1)	69 (35.2)	66 (33.7)	196 (39.2)	
Don't know	-	-	-	-	
Does smoking gain you or lose weight					
Yes	69 (29.7)	76 (32.8)	76 (32.8)	232 (46.4)	0.8462
No	70 (31.8)	78 (35.4)	72 (32.7)	220 (44.0)	
Don't know	12 (25.0)	17 (35.4)	19 (39.5)	48 (9.6)	
Do you think inhaling smoke from other people's cigarettes is harmful to you					
Yes	135 (29.8)	166 (36.7)	153 (33.7)	454 (90.8)	0.6967
No	3 (25.0)	6 (50.0)	3 (25.0)	12 (2.4)	
Don't know	13 (39.24)	10 (29.4)	11 (32.4)	34 (6.8)	
Smoking is an acceptable way to relax					
Yes	55 (28.2)	71 (36.4)	69 (35.4)	195 (39.0)	0.6709
No	96 (31.5)	111 (36.5)	98 (32.1)	305 (61.0)	
Don't know	-	-	-	-	
Tobacco use increases popularity among peers					
Yes	40 (24.7)	61 (37.7)	61 (37.7)	162 (32.4)	0.1488
No	111 (32.9)	121 (35.8)	106 (31.4)	338 (67.6)	
Don't know					

Table 3: Smoking-related attitude among different age groups

Variables	22 years%	23 years%	24 years%	Total	P-value
At any time during the next 12 months, do you think you will smoke					
Yes	2 (66.7)	0 (0.0)	1 (33.3)	3 (0.6)	0.6107
No	143 (30)	176 (36.4)	162 (33.64)	483 (96.6)	
Don't know	4 (28.6)	6 (42.9)	4 (29.6)	14 (2.8)	
Do you favor a complete ban on smoking in public places					
Yes	118 (28.5)	153 (36.9)	143 (34.5)	414 (82.8)	0.3464
No	22 (42.3)	16 (30.8)	14 (26.9)	52 (10.4)	
Don't know	11 (32.4)	13 (38.2)	10 (29.4)	34 (6.8)	
Smoking is stylish, and smokers have more friends					
Yes	75 (38.5)	57 (29.2)	63 (32.3)	195 (39.0)	0.0026*
No	69 (29.7)	74 (36.8)	72 (35.8)	201 (40.2)	
Don't know	21 (20.2)	51 (49.0)	32 (30.8)	104 (20.8)	
You will smoke if your best friend offers					
Yes	0 (0.0)	2 (66.7)	1 (33.3)	3 (0.6)	0.5364
No	149 (30.8)	174 (35.9)	161 (33.3)	484 (96.8)	
Don't know	2 (15.4)	6 (46.2)	5 (38.5)	13 (2.6)	

Table 4: Smoking-related behavioral determinants among different age groups

Variable	22 year%	23 year%	24 year%	Total n=15	P-value
Do you want to stop smoking now					
Yes	2 (25.0)	4 (50)	2 (25.0)	8 (53.3)	0.0036*
No	0 (0)	1 (25)	3 (75.0)	4 (26.7)	
Don't know	0 (0)	2 (66.7)	1 (33.3)	3 (20.0)	
Have you ever tried to stop smoking					
Yes	1 (16.7)	2 (33.3)	3 (50.0)	6 (40.0)	0.7411
No	1 (11.1)	5 (55.6)	3 (33.3)	9 (60.0)	
Received help or advice to stop smoking					
Yes, from a doctor	0 (0)	3 (60.0)	2 (40.0)	5 (33.4)	0.3464
No	1 (16.7)	1 (16.7)	4 (66.7)	6 (40.0)	

Chi-square test* $P < 0.05$ (significant)

In addition, 33.4% of smokers received information about quitting from doctors, whereas 40% did not receive any help or advice to stop smoking.

DISCUSSION

The present study was conducted to assess the knowledge, attitude, and behavioral determinants of tobacco use among college students of Chittorgarh city, Rajasthan. Adolescence is a critical time in one's life, and the habits and behavior formed during these years can have a long-lasting impact on the health of the individual. The knowledge, attitude, and behavioral determinants of tobacco use among the youth are important both to assess tobacco as a risk factor and to establish control measures for the prevention of these diseases.

In the present study, it was found that males were higher than females. Among 500 participants, 281 (56.2%) were male and 219 (43.8%) were female.^[12] This was similar to the studies conducted by Sreeramareddy *et al.*^[4] and Multani *et al.*^[17] where majority of study participants were male.

The present study shows smoking-related knowledge among study participants. Results revealed, 94.4% of the study subjects had knowledge about the harmful effects of smoking. Similar results were echoed in the studies conducted by Kuznar-Kaminska *et al.*,^[13] Saji *et al.*^[10] and Xu *et al.*^[11] Whereas, contrary to our study Tsering *et al.*^[9] Gopikrisna *et al.*,^[14] Biswas and Sarkar,^[15] Odukoya *et al.*^[16] and Multani *et al.*^[17] showed a comparatively lesser knowledge of the harmful effects of smoking of 84.6%, 71%, 84.5%, 72.3%, and 71.7%, respectively. This conflict of results could be due to a greater consciousness of the health consequences of addiction among the study participants.

The present study showed that 60.8% study participants were taught about the ill effects of smoking by family members. Therefore, family and school teachers are primarily responsible for imparting knowledge regarding smoking, and these findings are similar to those of a study conducted by Tsering *et al.*^[9]

In line with these results, 46.4% of the study subjects responded that smoking does not help in gaining or losing weight. Similar results were echoed in the study conducted by Xu *et al.*^[11] In contrast, the study conducted by Mpabulungi and Muula^[18] reported that 67.4% of the study participants responded that smoking makes one lose weight.

About 90.8% of the study population agreed that passive smoking is injurious to health. This was in agreement with the findings of Gopikrisna *et al.*^[14] Mpabulungi and Muula^[18] and Xu *et al.*^[11] Knowledge of the health effects of tobacco products may have contributed to this phenomenon.

Around 61% of the study population rejected it as a way to relax. This was in agreement with the study conducted by Kuznar-Kaminska *et al.*^[13] Saji *et al.*^[10] and Xu *et al.*^[11] Around 67.6% rejected that tobacco use increases popularity among peers. This was in agreement with the study conducted by Gopikrisna *et al.*^[14]

The present study shows the smoking-related attitude among study participants. Around 96.6% rejected to smoke in the future. This was similar to the study conducted by Kuznar-Kaminska *et al.*^[13] Saji *et al.*^[10] and Xu *et al.*^[11]

Around 82.8% supported ban on smoking in public places (such as hotels, taxis, schools, markets, and playgrounds). Similar results were reported by Mpabulungi and Muula^[18] and Odukoya *et al.*^[16]

About 40.2% of the study participants responded that smoking is not stylish, and smokers had more friends, which is almost similar to the findings of Saji *et al.*^[10] In contrast, the study by Mpabulungi and Muula^[18] showed that smokers had more friends than those who did not smoke.

In line with these results, 96.8% study population reject if best friend's offers to smoke. This was in agreement with a study done by Mpabulungi and Muula^[18] and Odukoya *et al.*^[16]

Around 83.8% of study participants had negative perceptions about smokers, which was that they lacked confidence. The results were in accordance with the studies conducted by Mpabulungi and Muula.^[18] Their negative attitude toward smoking might be due to the observance of local customs in which smoking is not considered an acceptable behavior.

The present study reveals smoking-related behavioral determinants among study participants. Around 53.3% of cigarette users expressed the desire to quit the habit. These results are similar to the studies by Tsering *et al.*,^[9] Fida and Abdelmoneim^[19] and Multani *et al.*^[17] In contrast, the study conducted by Mpabulungi and Muula^[18] reported 77.9% of cigarette users expressed their desire to quit the habit. Around 60% of the tobacco users reported that they had not tried to stop smoking, which is in accordance with the report of Multani *et al.*^[17] In contrast, studies by Tsering *et al.*,^[9] Fida and Abdelmoneim^[19] and Mpabulungi and Muula^[18] reported that users had tried to stop smoking in the past. In the present study, 60% of study participants did not receive any help or advice to stop smoking. This was in agreement with the study conducted by Multani *et al.*^[17]

This revealed that all users held a positive attitude toward quitting. Therefore, motivation on the part of family, friends, and close ones could help them to come out of this. There is a need to follow-up on this age group to determine the trends of tobacco use, to adjust the targeted tobacco prevention strategy. There were certain limitations of this study. First, the findings of the present study cannot be generalized to the entire population, as it was conducted on a small sample. Second, the surveys usually do not reveal the real behavior of the respondents, as people tend to answer more according to the social norm than according to the actual situation, i.e., social desirability bias. Thus, the results of the present study should be interpreted with caution. Finally, as with any cross-sectional data, causality cannot be inferred from the observed associations in the current study.

CONCLUSION

Awareness of the harmful effects of smoking was high among the study population. They had a negative attitude toward smoking. However, <1% of the study population had the habit of cigarette smoking at this young age. The study provides useful insights into the factors to be considered in planning adolescent anti-smoking programs in this and similar settings. College-based awareness programs followed by cessation initiatives utilizing peer pressure should be carried out, so that the students can resist pressure to use tobacco. Such smoking prevention programs may focus on modifying attitudes toward smoking and providing a cigarette-free environment in and around the college campus.

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