

Smoking Practice and Prevalence among Undergraduate Female Students of North India: A Cross Sectional Study

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Abstract

Background: The world's leading preventable cause of premature illness and death is smoking. Every year, tobacco use and smoking cause the untimely deaths of almost three million people worldwide, with one million of those deaths occurring in developing countries.

Objectives: The present study was conducted to determine the prevalence of smoking, knowledge about the harmful effects of smoking on health, and the influence of their family members' smoking habits among female college-going students of the Kashmir division.

Material and Methods: This is a type of cross-sectional study. A sample of 384 female college-going students was selected by a nonrandom and convenient sampling method from various colleges of the Kashmir division. A self-administrated questionnaire was used to determine the personal, social, and educational characteristics of the study participants. They were also asked about their smoking types, status, length of time they had been smoking, understanding of the negative consequences of smoking, how many cigarettes they smoked each day, and their motivations for quitting.

Results: The prevalence of present smoking cigarettes was 8.3%, whereas 7.3% of the participants were previous smokers. The prevalence of present smoking was highest amongst the engineering students (16.1%) and lowest amongst the students of commerce (3.9%). The majority (68%) of the smokers' parents were also smokers. Almost 55.9% of smokers started their smoking habit to cope with stress, and 5.1% of the participants did not know that smoking causes serious health problems. The most common factors for quitting smoking were health concerns (88.2%).

Conclusion: The present study concludes that the prevalence of smoking among female college-going students varies in different faculties and that family and friends have a great influence on individuals starting or stopping smoking.

Keywords: Smoking, Female, Hookah, Cigarettes, College students & Kashmir.

Introduction

Smoking is one of the world's leading preventable causes of premature death, disease, and disability.¹ Females comprise 20% of the world's one billion smokers. Furthermore, tobacco use among females has increased.² Research data from various countries show that about 7% of adolescent girls smoke cigarettes compared to 12% of adolescent boys. In some countries, the prevalence of smoking among girls is almost as high as that in boys.³ Smoking kills nearly 6 million people worldwide each year. If the current trend continues, by 2030, tobacco will kill more than 8 million people worldwide each year. Over the 21st century, tobacco use could kill a billion people or more.⁴ Tobacco use is associated with many chronic diseases, such as cardiovascular disease, cancer, chronic respiratory diseases, and diseases of the digestive tract.⁵

Although the prevalence of smoking among females is lower than among males worldwide 42% of males and 24% of females in developed countries and 48% of males and 7% of females in developing countries.⁶

Different Literature states peer pressure; parental tobacco habits and pocket money are the triggering factors for initiating this habit.⁷ The issue of smoking among females has attracted growing attention because recent reports have shown a high level of tobacco use among females.⁸ Furthermore, females face additional health risks, including hazards during pregnancy like exposure to secondhand smoke that can lead to low birth weight or premature birth and cancers of the female reproductive system.⁹ Smoking also impoverishes many females by negatively affecting their health.¹⁰ The prevalence of smoking is consistently lower among women than in men, especially in developing

countries, where there is a strong influence of culture and tradition, and where women are traditionally stigmatized for using tobacco.¹¹ However, the situation is changing and there is a growing epidemic of smoking among women in the developing world (WHO Gender, Health, and Tobacco, 2003). However, water pipes are commonly used by females of different ages, while conventional tobacco use appears relatively uncommon. Unfortunately, girls and young women in a country like India are increasingly smoking water pipes, which they perceive as fashionable.¹²

Various research studies conducted in Australia and other developed countries have shown that working women have increased levels of stress because their working hours have been increased in the college, university and office as well as in the home, and one reason that females smoke is to cope with stress.¹³⁻¹⁴ Other reasons for smoking that have been reported include gender equality and economic factors.¹⁵ Female smoking increases with age, which may be attributed to the social independence attained by money-earning women in traditional societies.¹⁶ Studies have been conducted in India to investigate patterns and potential predictors of tobacco consumption among young students, particularly among the female population. The prevalence of smoking ranges from 13% to 20% among males and 9-11% among female college-going students, but the prevalence is much lower than that in other countries.¹⁷⁻¹⁸ The fact that doctors are seen as trustworthy providers of health information in many developing nations makes them a valuable ally in the campaign against tobacco usage.¹⁹

Tobacco companies promote cigarettes to women using seductive but false images of vitality, slimness, modernity, emancipation, sophistication, and sexual allure.²⁰ In reality, smoking causes disease and death. In Today's world tobacco firms provide a variety of products targeted specifically toward women. The "women-only" brands stand out the most; these "feminized" cigarettes are lengthy, extra-slim, low-tar, light-colored, or have menthol added.²⁰ The smoking habits of college students can provide important details about the smoking patterns of young adults, and this knowledge can assist develop a customized strategy for tobacco management. Awareness of the risks of smoking will decrease smoking habits among the population.²¹⁻²² Since students have greater exposure to awareness programs and greater knowledge of the risks of smoking compared to other groups.

Aim of the Study:

The present study was conducted to determine the prevalence of smoking, knowledge about the

harmful effects of smoking on health, and the influence of their family members' smoking habits among female students of various colleges in the Kashmir division.

Materials and Methods:

The present research study followed a cross-sectional research design. A self-administrated questionnaire was developed by the researcher after an extensive review of the literature process. For initial data collection, a self-administered questionnaire was finalized after the group discussion with other co-authors. This was further modified by consulting with other experts in the mental health field. The modified questionnaire was piloted on 35 participants for further finalization, depending on the feedback from the pilot study. The final validated questionnaire had twelve questions that evaluated past tobacco usage and associated variables. All participants (smokers, nonsmokers, and ex-smokers) were asked the first five questions, which focused on age, family history of smoking, understanding of the negative consequences of tobacco use, and attitude toward smoking. Only smokers and former smokers were eligible to answer the following seven questions. These items assessed types of smoking (Hookah, Bidi, or Cigarette), the amount of smoking (number of cigarettes per day), age of initiation (the age when the first cigarette or water pipe was smoked), the reason for initiation, for example, social pressure, entertainment, etc., history of quitting or trying to quit smoking, and the reason for quitting. Various colleges were selected from the Kashmir division, from December 2017 to September 2018. Data collection was performed over 10 months during this period various colleges were covered. An anonymous, self-administered questionnaire was distributed to 384 female college-going students of the Kashmir division who agreed and gave consent to participate in the survey. We did not ask for the students' names or serial numbers since we were able to ensure the participants' privacy. The responses to the surveys were kept private and confidential. A non-random, convenient sampling technique was employed to collect the data because smoking among college-going female students is a sensitive issue according to the cultural perspective. All the participants of the study were informed about the aim and objectives, and the need for information about the items in the questionnaire was explained. The present research study was approved by the institutional ethical committee.

Statistical Analysis:

The collected data were entered in Excel 2007 and analyzed using the SPSS program (version 23.0; IBM Corporation, Armonk, NY, USA). Descriptive statistics (mean, standard deviation, and percentages)

were used for summarizing the study and outcome variables. Pearson's chi-square test and odds ratios with 95% confidence intervals were used for observing and quantifying the association between smoking and different study variables. All statistical tests were two-sided and performed at a significance level of $\alpha=.05$.

Results:

Table 1 shows the socio-demographic characteristics

of the college-going female students (N=384). Nearly forty-one percent of the study participants (40.9%) were in the age range of 18-20 years. Regarding marital status, the majority of the female students were single (96.6%). Most of the sample was followers of Islam (82.8%). The majority of the participants were belonging to the nuclear family (53.2%). Most of the study participants (67.0%) were from the rural community. The Mean age of female participants was 21.1 years, SD 1.8.

Table 1: Socio-Demographic characteristics of the college going female students (N=384)

Variables	Description	Percent% N=384
Age Group	18-20 Years	40.9% (157)
	21-23 Years	35.2% (135)
	Above 23 Years	24.0 % (92)
Gender	Female	100.0% (384)
Marital Status	Single	96.6% (371)
	Married	3.4% (13)
Study Year	First year	32.8% (126)
	Second Year	31.0% (119)
	Final Year	36.2% (139)
Family Income	0 – 10001	24.8% (95)
	10002 – 29972	26.9% (103)
	29973 – 49961	48.4% (186)
Religion	Islam	82.8.% (318)
	Hinduism	7.6% (29)
	Sikhism	9.6% (37)
Family type	Nuclear	53.2% (204)
	Extended	4.5% (17)
	Joint	42.4% (163)
Locality	Rural	67.0% (257)
	Urban	33.0% (127)
Age (Years)	Mean $\pm$ SD	21.1 $\pm$ 1.8

Table 2 shows the Prevalence of smoking among college-going female students in the various colleges of the Kashmir Division. A total of 384 students were recruited for the study, among the study participants 8.3% were present smokers, and 7.03% were previous smokers. The prevalence of smoking

including both present and previous smokers was 15.4%. The highest prevalence of present and previous smokers was 35.7% in the students of engineering faculties. The lowest prevalence of present and previous smokers was 7.9% in the students of Commerce faculties.

Table 2: Prevalence of smoking among college going female students in the various colleges of Kashmir Division.

Different Faculties	Total Sample	Present Smokers	Previous Smokers	Total Sample
Students of Social Science	87 (22.7%)	04 (4.6%)	06 (6.9%)	10 (11.5%)
Students of Commerce	51 (13.3%)	02 (3.9%)	02 (3.3%)	04 (7.9%)
Students of Humanities	69 (17.9%)	06 (8.7%)	02 (2.9%)	08 (11.6%)
Students of Science	73 (19.0%)	08 (10.9%)	05 (6.8%)	13 (17.8%)
Students of Law	48 (12.5%)	03 (6.5%)	01 (2.8%)	04 (8.3%)
Students of Engineering	56 (14.6%)	09 (16.1%)	11 (19.7%)	20 (35.7%)
Total	384	32 (8.3%)	27 (7.03%)	59 (15.4%)

Table3: shows the characteristics of smoking habits among college-going female students. The majority of the participants (78.0%) preferred smoking cigarettes instead of Hookah or Bidi. The main motive for smoking was to cope with stress (55.9%). More than 38.0% of study participants had either a father or mother who smoked. The majority

(67.8%) of the participants responded that they were inspired to smoke by friends. The most common causes of quitting the smoking habit were health-related considerations and almost 95.0% of the students have knowledge about the harmful risks of smoking.

Table 3: Characteristics of smoking habits among college going female students.

Type	Total No of Students Smoking (59)	Percentage (%)
Cigarettes	46	78.0%
Bidi	04	6.8%
Hookah	09	15.3%
Smokes alone or with others		
Alone	11	18.7%
With family	03	5.1%
With friends	45	76.3%
Inspired addiction		
Family	15	25.4%
Friends	40	67.8%
Social Media	04	6.8%
Reasons of smoking		
Curiosity	04	6.8%
To cope with stress	33	55.9%
To relax	11	18.7%
For the sake of having something to do	02	3.4%
Enjoyment/ Entertainment	09	15.3%
Frequency of smoking		
1 cigarettes per day	43	72.9%
2-4 cigarettes per day	05	8.5%
Hookah 2-3 times in a week	11	18.6%
Thinking of quitting smoking	52	88.2%
Period of increase in Cigarettes smoking		
Exams	28	47.5%
Holidays	09	15.3%

Time of Stress/Happiness	22	37.3%
Have knowledge about the risks of smoking	54	94.9%

Discussion

The present study was conducted to determine the prevalence of tobacco smoking among female college-going students in the Kashmir division studying at various colleges. The prevalence of smoking among college-going female students in our study was 8.3%. Commerce and law students represented a lower rate (3.9%) and (6.5%) of smokers, and the engineering students reported a higher rate of smoking (16.1%). This suggests that increased tobacco consumption is linked to a lack of medical knowledge and stress. The prevalence is comparable to that reported in previous studies.²³⁻²⁴ Various research studies conducted in India showed a higher prevalence of smoking in a similar group (11%).²⁵⁻²⁶ In the present study, the prevalence of previous smokers and present smokers were 7.3% and 8.3% respectively. The percentage of present smokers in this study was closer to the study done among Thailand students where the prevalence was 11.2%.²⁷ whereas lesser compared to studies done in different population groups.²⁸⁻³⁰ These variations among the results could be easily explained by the accuracy of reporting by participants or just by cultural differences. The Hookah form of tobacco use, other than cigarettes, was the most commonly used smoking practice across the globe, including in India also.

The Global Youth Tobacco Survey Collaborative Group 2005, reported that Hookah smoking is enjoying a great rise in popularity and becoming a behavioral norm, including for women.¹² In addition, our study revealed that more students smoked with friends (76.3%) than alone (18.7%) or with their family (5.1%). Contrasting research studies have shown that those with a best friend as a smoker were more prone to be smokers themselves.³¹⁻³⁴ This suggests that friends influence smoking behavior more than family members, and corroborates evidence from other studies that most people started smoking due to the influence of friends.³⁵⁻³⁷ One international study from Ethiopia reported that 4.6% of female college-going students smoke cigarettes.³⁸ In the present study, we found that up to 67.8% of the smokers were inspired to smoke by their friends. Other factors associated with female smoking were smoking parents and spouses, being a single child, and parents not alive. Most female students indicated that exams and stress was huge factor in starting smoking. Furthermore, a feeling of relaxation and the ability to cope with stress was the most common reason given for smoking more than 74.6% of

smokers. There is an evidence-based relation between smoking and depression, and it is recommended that this important fact should be communicated to smokers through various means.

Many people smoke both cigarettes and Hookah and this was the case among 23.5% of the smokers in our study. However, more than 18% of the student smokers used Hookah alone. Similar findings have been reported by others, showing a high prevalence of Hookah smoking alone or of smoking both Hookah and cigarettes.³⁹ This is probably due to the common misconception that Hookah smoking is harmless. Hookah smoking may be more damaging since the plasma nicotine level resulting from smoking one Hookah is 20% higher than that resulting from smoking cigarettes.⁴⁰ In other words, Hookah smoking may carry greater risks to health, and current data refute the perception that smoking a Hookah is harmless.⁴¹ These findings strongly imply that tobacco control programs must address all other forms of tobacco consumption, in addition to cigarette smoking.

On a positive note majority of the present smokers in this study population (94.9%) were conscious of the harmful effects of tobacco and this was higher than 51 % to 81% as reported in previous studies.⁴²⁻⁴⁴ College-going female students and the public in general, should be educated about other effective stress management strategies to help students encountering different kinds of stressors and not have them rely on harmful behavior such as tobacco smoking for stress relief. In this study, we found that the most important reason given for quitting smoking was health-related issues, which is consistent with that seen in other studies.⁴⁵⁻⁴⁶ Another important reason given for quitting smoking was religious beliefs.⁴⁷ Because this study was conducted in the various colleges, where women are receiving their education, it is reasonable to find health considerations to be their main reason.

Limitations and strengths

This study was conducted with a credible methodology.

One of the major limitations of this study is that it used a self-administered questionnaire with a convenient sampling method. In addition, the response rate varied in different colleges. This may have affected the estimation of the prevalence of women smoking in some colleges taken into consideration. Present smoking status in the present study was not verified by biochemical methods. The compliance of college students in answering the

questionnaire and giving true information might not have been accurate, as the study dealt with sensitive issues regarding our preserved Kashmiri culture, especially in the female population.

Conclusion:

Based on the present study, the researcher hypothesizes that smoking is less prevalent among female students of different colleges in the Kashmir division. The amount of Hookah smoking among the female college-going smokers was lower than that of cigarette smoking. One of the important factors influencing the participants to smoke was the presence of a smoker in the family. Hence, it is recommended that all family members should avoid smoking, at least in front of their wards, as most adolescents look up to their parents as role models. The important factors identified for quitting smokings were health concerns and religious beliefs. As a result, to counteract the predicted future epidemic of smoking-related health issues, variables like health and religious education should be taken into account. The awareness campaigns should be designed to inform college-going students, parents, teachers, and the broader public about the negative effects of such behaviors. It is very important to develop preventive strategies to reduce tobacco consumption among students. It is necessary to launch preventive initiatives immediately, with a particular emphasis on children and teenagers.

Financial support and sponsorship: Nil.

Conflicts of Interest: There are no conflicts of interest.

Ethical Clearance: The study protocol was reviewed and approved by the Institutional Ethics Committee.

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