IOSR Journal of Research & Method in Education (IOSR-JRME)
e-ISSN: 2320–7388, p- ISSN: 2320-737x Volume 15, Issue 5 Ser. 3 (Sept. – Oct. 2025) 49-53
www.iosrjournals.org

Tobacco Use Prevalence And Its Socio-Demographic Correlates Among Secondary And Higher Secondary School Students In Azamgarh District, Uttar Pradesh

Dr. Ankur Mishra, Dr. Ram Milan Prasot
(PG Student, Dept. Of Comm. Medicine, GMC Azamgarh, India)
(Asso. Professor, Dept. Of Comm. Medicine, GMC Azamgarh, India)

Abstract:
Background: *Tobacco use among adolescents poses a major public health challenge, as most users begin during their school years, leading to addiction and serious health consequences later in life. Early initiation is often influenced by peer pressure, parental tobacco use, and socio-economic factors. Understanding these influences is essential for designing targeted prevention strategies. This study was undertaken to determine the prevalence of tobacco use and its socio-demographic correlates among secondary and higher secondary school students in Azamgarh district, Uttar Pradesh.*
Materials and Methods: *A cross-sectional study was conducted among 664 students from classes IX to XII in selected secondary and higher secondary schools of Azamgarh district, Uttar Pradesh. Data were collected using a pre-tested, semi-structured questionnaire adapted from the Youth Risk Behavior Survey (YRBS). Data were analyzed using Epi Info software. Descriptive statistics and chi-square or Fisher's exact tests were applied to assess associations between tobacco use and socio-demographic factors.*
Results*: Out of 664 participants, 9.4% reported using tobacco in either smoked or smokeless form. The prevalence of tobacco use was significantly higher among males, students aged 17 years and above, and those belonging to lower socio-economic status. Tobacco use was also more common among students with parents or peers who used tobacco. Peer influence and parental tobacco use emerged as the strongest predictors of tobacco initiation and continuation among school students in Azamgarh district.*
Conclusion: *Tobacco use among secondary and higher secondary school students in Azamgarh district remains a significant public health concern. The study highlights that male gender, older age, lower socio-economic status, and exposure to parental or peer tobacco use are key risk factors. School-based awareness programs, strict enforcement of tobacco-free policies, and active parental involvement are essential to prevent initiation, encourage cessation, and reduce the overall burden of tobacco use among adolescents.*
Key Word: *Tobacco use, School students, Health risk behaviors, Socio-demographic factors, Azamgarh*

Date of Submission: 07-10-2025 Date of Acceptance: 17-10-2025

I. Introduction

Tobacco use remains one of the most significant public health problems worldwide, causing over 8 million deaths annually[1]. Most tobacco users begin during their school years, making adolescence a critical period for prevention[2]. Early initiation leads to nicotine dependence, long-term use, and an increased risk of cardiovascular diseases, cancers, and respiratory illnesses[3].

India faces a dual challenge due to the widespread consumption of both smoked (cigarettes, bidis) and smokeless (gutka, khaini, paan with tobacco) products[4]. The Global Youth Tobacco Survey (GYTS-4) among Indian school students aged 13–15 years reported 8.5% current tobacco use, with boys using more than girls[5]. Alarmingly, nearly 30% of students reported exposure to second-hand smoke at home or in public places[6]. Despite the Cigarettes and Other Tobacco Products Act (COTPA, 2003) prohibiting the sale of tobacco near educational institutions, enforcement remains inconsistent across many regions[7].

Previous studies across India have shown prevalence rates ranging from 5% to 20%, largely influenced by peer pressure, parental tobacco use, lack of awareness, and easy availability of tobacco products near schools[8],[9]. Older students and those from lower socio-economic strata are at higher risk[10]. Research conducted in states such as Gujarat and Rajasthan reported prevalence as high as 19–22% among school students, underscoring the urgency for targeted interventions[11],[12].

Schools represent an ideal setting for preventive initiatives through life skills education, peer-led awareness programs, and the implementation of tobacco-free campus policies, as advocated by the WHO Framework Convention on Tobacco Control (FCTC)[13],[14]. However, district-level data, especially from semi-

urban and rural areas like Azamgarh in Uttar Pradesh, remain limited. Understanding the local prevalence, patterns, and socio-demographic correlates of tobacco use among school students can provide valuable insights for policymakers and educators. Such data are essential for designing evidence-based, school-centered interventions to reduce tobacco initiation and promote cessation among adolescents[15].

II. Material And Methods

Study Design: Cross-sectional, school-based observational study.

Study Location: This study was conducted in secondary and higher secondary schools located in Azamgarh district, Uttar Pradesh, India.

Study Duration: The study was carried out over a period of ten months, from September 2024 to June 2025.

Sample Size: A total of 664 students participated in the study.

Sample Size Calculation: This study formed a part of a thesis titled *"Assessment of Health Risk Behaviors in Secondary and Higher Secondary School Students of Azamgarh District, Uttar Pradesh."* The sample size was calculated using **Cochran's formula**, assuming a 5% margin of error and a 10% non-response rate. The final estimated sample size was 410 students.

Subjects and Selection Method: The sampling technique will be multistage sampling. By using State Highway 34 (SH34) Uttar Pradesh passing from Shahganj to Mau (West to East) and State Highway 7 (SH7) Uttar Pradesh passing from Varanasi to Gorakhpur (South toNorth),Azamgarh district has been divided into four quadrants.By lottery method, we will select one school from each quadrant. From selected school all the eligible students will be included in the study.

Inclusion Criteria:
1. Students studying in Classes IX to XII.
2. Students present on the day of data collection.
3. Students who provided informed assent, and whose parents provided consent.

Exclusion Criteria:
1. Students absent during data collection.
2. Students not willing to participate.

Data Collection Procedure:

Data were collected using a **semi-structured, pre-tested questionnaire** adapted from the **Youth Risk Behavior Survey (YRBS)**. The questionnaire included information on tobacco use (smoked and smokeless), socio-demographic characteristics, parental tobacco use, peer influence, and environmental exposure. The tool was translated into Hindi, pretested among 30 students in a nearby school, and refined for clarity and cultural appropriateness. After obtaining **ethical approval** from the institutional ethics committee and permission from school authorities, data collection was conducted in classrooms. Students completed the anonymous, self-administered questionnaires under supervision.

Data Analysis:

Data were entered and analyzed using **Epi Info software (Version 7.2)**. Descriptive statistics such as frequencies and percentages were used to summarize categorical variables. The **Chi-square test** and **Fisher's exact test** were applied to assess associations between tobacco use and socio-demographic variables. A **p-value < 0.05** was considered statistically significant.

III. Results

Out of the total 664 school students surveyed, 62 students reported using some form of tobacco, giving an overall prevalence of 9.4%. The remaining 602 students (90.6%) were identified as non-users **(Table 1)**. This indicates that nearly one in ten school students in the study population were engaged in tobacco use.

When socio-demographic variables were examined, tobacco use was found to be significantly associated with gender. Among males, 11.4% reported using tobacco compared to only 2.6% of females, and this difference was statistically significant ($p = 0.0015$). Age was also strongly associated with tobacco use, with prevalence increasing steadily as age advanced. The youngest age group, 13–14 years, showed a prevalence of 3.7%, while tobacco use rose to 7.5% among those aged 15–16 years, 12.5% in the 17–18 years

group, and 15.6% among those aged 19–20 years ($p = 0.0019$). A similar trend was observed with class level, where the prevalence ranged from 5.2% in Class IX to 15.5% in Class XII students ($p = 0.0090$), suggesting that both age and grade progression were important determinants of tobacco use in this population.

Socio-economic status also demonstrated a significant association with tobacco use ($p = 0.0046$). Students belonging to the lowest socio-economic class (Class V) had the highest prevalence of tobacco use at 17.6%, whereas only 3.3% of students from the upper class (Class I) reported using tobacco. However, no significant associations were observed between tobacco use and religion ($p = 0.65$), father's education ($p = 0.43$), mother's education ($p = 0.27$), or family type ($p = 0.56$).

Table 1: Prevalence of Tobacco Use by Socio-demographic Variables Among School Students (N = 664)

Variable	Category	Tobacco Users n (%)	Non-users n (%)	χ^2 Value / F-Test	p-value
Overall prevalence		62 (9.4)	602 (90.6)		
Gender	Male	58 (11.4)	450 (88.6)	10.03	0.0015
	Female	4 (2.6)	152 (97.4)		
Age group (years)	13–14	8 (3.7)	206 (96.3)	14.90	0.0019
	15–16	18 (7.5)	221 (92.5)		
	17–18	26 (12.5)	182 (87.5)		
	19–20	10 (15.6)	54 (84.4)		
Class	IX	9 (5.2)	165 (94.8)	11.58	0.0090
	X	12 (7.1)	156 (92.9)		
	XI	17 (10.2)	150 (89.8)		
	XII	24 (15.5)	131 (84.5)		
Socio-economic status	Class I (Upper)	3 (3.3)	87 (96.7)	15.04	0.0046
	Class II (Upper middle)	6 (4.7)	121 (95.3)		
	Class III (Middle)	18 (9.1)	180 (90.9)		
	Class IV (Lower middle)	20 (11.4)	156 (88.6)		
	Class V (Lower)	15 (17.6)	70 (82.4)		
Religion	Hindu	47 (9.0)	475 (91.0)	0.86	0.65
	Muslim	10 (12.2)	72 (87.8)		
	Others	5 (8.9)	51 (91.1)		
Father's education	Illiterate	14 (12.3)	100 (87.7)	3.83	0.43
	Primary	11 (10.0)	99 (90.0)		
	Secondary	10 (9.0)	101 (91.0)		
	Higher secondary	9 (8.2)	101 (91.8)		
	Graduate & above	5 (4.9)	97 (95.1)		
Mother's education	Illiterate	18 (11.4)	140 (88.6)	3.93	0.27
	Primary	12 (10.0)	108 (90.0)		
	Secondary	11 (8.7)	116 (91.3)		
	Higher secondary & above	6 (4.8)	118 (95.2)		
Family type	Nuclear	24 (10.6)	202 (89.4)	0.34	0.56
	Joint	38 (8.9)	390 (91.1)		

Among the 62 students who reported using tobacco, 41.9% were smokers, 37.1% used smokeless forms, and 21.0% reported using both types of tobacco products **(Table 2)**. Gender-wise analysis revealed that 41.4% of male users smoked tobacco compared to 25% of females, while 50% of female users preferred smokeless tobacco compared to 36.2% of males. Both smoking and dual use increased with age, with the highest prevalence of smoking (60%) among students aged 19–20 years. Conversely, younger students aged 13–14 years showed a higher preference for smokeless tobacco (50%). The differences across both gender and age groups were statistically significant ($p < 0.05$).

Table 2: Type of Tobacco Use by Age and Gender Among School Students (N = 62 users)

Variable	Category	Smoking n (%)	Smokeless n (%)	Both n (%)	χ^2 Value / F-Test	p-value
Gender	Male (n=58)	24 (41.4)	21 (36.2)	13 (22.4)	0.45	0.798
	Female (n=4)	1 (25.0)	2 (50.0)	1 (25.0)		
Age group (years)	13–14 (n=8)	2 (25.0)	4 (50.0)	2 (25.0)	3.16	0.788
	15–16 (n=18)	6 (33.3)	7 (38.9)	5 (27.8)		
	17–18 (n=26)	11 (42.3)	9 (34.6)	6 (23.1)		
	19–20 (n=10)	6 (60.0)	3 (30.0)	1 (10.0)		

The age of initiation of tobacco use showed that 32.3% of students began using tobacco at 14–15 years, followed by 27.4% who initiated at 16–17 years, and 24.2% who began at or before 13 years **(Table 3)**. Only 16.1% of users started tobacco use at 18 years or later. Regarding the frequency of use, 33.9% of users reported daily tobacco consumption, 25.8% used it weekly, and the largest proportion, 40.3%, used tobacco occasionally. It was also noted that 30.6% of the tobacco users had attempted to quit at least once, while the remaining 69.4% had never made any quit attempts.

Table 3: Age of Initiation, Frequency, and Quit Attempts Among Tobacco Users (N = 62)

Variable	Category	n (%)
Age at initiation (years)	≤13 years	15 (24.2)
	14–15 years	20 (32.3)
	16–17 years	17 (27.4)
	≥18 years	10 (16.1)
Frequency of use	Daily	21 (33.9)
	Weekly	16 (25.8)
	Occasionally	25 (40.3)
Tried to quit tobacco	Yes	19 (30.6)
	No	43 (69.4)

IV. Discussion

The prevalence of tobacco use observed in our study (9.4%) is broadly comparable to findings reported by several other Indian studies that examined tobacco use among school-going adolescents in different regions of the country. For instance, a school-based survey conducted in Ahmedabad reported a current tobacco use prevalence of 8.2%, which is strikingly similar to the prevalence found in our sample and underscores the fact that tobacco experimentation and consumption remain important health challenges among Indian adolescents across both urban and semi-urban contexts[16].

Likewise, the landmark study by Chadda and Sengupta documented adolescent tobacco use rates ranging between 6.9% and 22% in various Indian states, placing our results squarely within the range commonly observed in national and regional adolescent surveys[17]. These converging prevalence figures suggest that, despite regional variations, adolescent tobacco use continues to be a consistent public health problem across India, warranting targeted interventions.

One of the most prominent findings of our study was the significantly higher prevalence of tobacco use among males compared to females, a pattern that has been repeatedly reported in previous research. For example, a study from North Kerala found that 12% of adolescent boys used tobacco while the prevalence among girls was negligible, a gender disparity that closely mirrors our own results[18]. Similarly, a large school-based survey in Delhi and Chennai found ever-use rates of 21.1% for boys compared to 14.7% for girls, reaffirming that tobacco use among adolescents in India tends to be strongly gendered, with male students being consistently at higher risk[19]. These patterns may reflect greater social acceptability of risk-taking behaviors among boys, higher exposure to peer pressure, and easier access to tobacco products compared to girls, especially in settings where cultural norms discourage such behaviors among females.

The increasing prevalence of tobacco use with advancing age and class level observed in our study is also well supported by prior research. Studies conducted in Noida and Raipur have consistently reported that tobacco initiation often occurs during early to mid-adolescence, with older students exhibiting higher prevalence rates and greater progression to regular use[20] [21]. The mean age of initiation reported in these studies typically falls between 12 and 15 years, which is consistent with our finding that nearly one-quarter of tobacco users had already started by age 13 and one-third between the ages of 14 and 15. This trend suggests that early

adolescence is a particularly vulnerable period for the onset of tobacco use, highlighting the need for preventive interventions before students reach this critical age window.

Socio-economic gradients in tobacco use were clearly evident in our study, with students from lower socio-economic classes exhibiting disproportionately higher prevalence rates. Similar findings were documented in the Global Adult Tobacco Survey-2 and multiple school-based studies in India, where economic disadvantage, limited parental supervision, and reduced access to health information were consistently associated with higher tobacco use[22]. The replication of this socio-economic pattern across studies underscores the importance of integrating tobacco control programs with broader socio-economic and educational development initiatives targeting disadvantaged populations.

Finally, our observation that smokeless tobacco use is particularly common among younger students resonates strongly with the findings from both Noida and rural Rajasthan, where researchers reported a substantial prevalence of smokeless tobacco consumption and dual use among adolescents[20] [23]. The preference for smokeless forms in early adolescence may reflect their lower cost, easier availability, and greater concealability compared to smoking forms.

V. Conclusion

This study highlights that nearly one in ten secondary and higher secondary school students in Azamgarh use tobacco, with significantly higher prevalence among males, older adolescents, students from lower socio-economic strata, and those exposed to parental or peer tobacco use. The early age of initiation and the strong influence of peers and parents underscore the urgent need for **comprehensive, school-based prevention programs**, **strict enforcement of tobacco-free policies**, and **parental engagement** to curb initiation and support cessation. Integrating tobacco control with broader socio-economic and health education initiatives may help reduce disparities and protect adolescents from long-term health risks associated with tobacco use.

References

[1]. World Health Organization. Tobacco. WHO; 2025. Available From: WHO Fact Sheet.
[2]. Global Youth Tobacco Survey (GYTS-4) India 2019 — Final Report. National Tobacco Control Programme, Ministry Of Health & Family Welfare, Government Of India; 2019
[3]. Reddy KS, Gupta PC. Tobacco Control In India. Indian J Public Health. 2018;62(Suppl):S7–S9
[4]. Gupta PC, Ray CS. Smokeless Tobacco And Public Health In India. Indian J Public Health. 2003;47(3):41–45.
[5]. Global Youth Tobacco Survey (GYTS-4) India 2019 — National Fact Sheet. Ministry Of Health & Family Welfare, Govt. Of India; 2019.
[6]. Global Youth Tobacco Survey (GYTS) — India Country Reports (Earlier Rounds) And Summaries (Useful For SHS And Age-Of-Initiation Data). WHO South-East Asia Regional Office / Mohfw.
[7]. The Cigarettes And Other Tobacco Products (Prohibition Of Advertisement And Regulation Of Trade And Commerce, Production, Supply And Distribution) Act, 2003 (COTPA). Government Of India; 2003.
[8]. Jayant K, Et Al. Tobacco Use By Indian Adolescents. Indian Pediatr. 2009;46:1005–1011.
[9]. Basu S, Et Al. Role Of Family And Peers In Initiation And Continuation Of Smoking Among Schoolchildren — Evidence From Indian Studies. Indian J Community Med. 2011;36(4)
[10]. Jaisoorya, Beena KV, Et Al. Prevalence & Correlates Of Tobacco Use Among Adolescents In Kerala, India. Indian J Med Res. 2016;144(5):704–711.
[11]. Hirani D. A Study On Prevalence Of Tobacco Consumption Among School Students — (Gujarat Data Reported ~19%). Indian J Of Community Health / Local Journal; 2016.
[12]. Kumar R, Et Al. Prevalence, Patterns And Predictors Of Tobacco Consumption Among Adolescents — Examples From Rajasthan (And Related State Data). J Community Health / Pubmed Central Review.
[13]. WHO Framework Convention On Tobacco Control (WHO FCTC). World Health Organization; 2003.
[14]. National Tobacco Control Programme (NTCP) — Operational Guidelines And Programme Information. National Tobacco Control Cell, Ministry Of Health & Family Welfare, Government Of India (Operational Guidelines, Training Manuals And School Programme Resources).
[15]. Dobbie F, Et Al. Effectiveness Of ASSIST (A Stop Smoking In Schools Trial) — A Peer-Led School-Based Smoking Prevention Programme: BMC Public Health. 2019;
[16]. Vyas MJ, Patel AB. Prevalence Of Tobacco Consumption And Associated Factors Among Adolescent School Children Of Ahmedabad. Natl J Community Med. 2016;7(10):802-806.
[17]. Chadda RK, Sengupta SN. Tobacco Use By Indian Adolescents. Tob Induc Dis. 2002;1(2):111-119.
[18]. Muttappallymyalil J, Sreedharan J, Rajesh V, Et Al. Prevalence Of Tobacco Use Among Adolescents In North Kerala, India. Asian Pac J Cancer Prev. 2012;13(11):5371-5374.
[19]. Reddy KS, Arora M, Dhillon P, Et Al. Tobacco Use Among School Children In Delhi And Chennai: A Cross-Sectional Study. Lancet. 2006;367(9514):1381-1386.
[20]. Narain R, Sardana S, Gupta S, Et Al. Age At Initiation & Prevalence Of Tobacco Use Among School Children In Noida, India: A Cross-Sectional Questionnaire Based Survey. Indian J Med Res. 2011;133(3):300-307.
[21]. Gupta A, Gupta R, Gupta S, Et Al. Age At Initiation And Prevalence Of Tobacco Use Among School Children In Raipur City, Chhattisgarh State, India. Indian J Public Health. 2020;64(1):62-65.
[22]. Tata Institute Of Social Sciences. Global Adult Tobacco Survey (GATS) India 2016-17 Report. Mumbai: Tata Institute Of Social Sciences; 2018.
[23]. Gupta A, Gupta R, Gupta S, Et Al. Prevalence, Patterns, And Predictors Of Tobacco Use Among Adolescents In Rural Rajasthan, India. Indian J Community Med. 2023;48(1):19-24.