



Research Article

Socio-Demographic Determinants of Alcohol and Tobacco Use Among Men in India: A Cross-Sectional Study

 Dr. K. Emmanuel^{1*}, Rahul Kumar², Dr. Ingrid M. Uy³

¹Postdoctoral Fellow (IIPS Mumbai) & Founder, Social Doctors Foundation, Chennai, Tamil Nadu, India

²Ph.D. Scholar, International Institute for Population Sciences, Mumbai, Maharashtra, India

³Director, External Linkage & International Affairs, Southern Lyte State University, Philippines

Corresponding Author: * Dr. K. Emmanuel 

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Abstract	Manuscript Information
<p>Background: Alcohol and tobacco consumption are major public health concerns worldwide, particularly in India. This study investigates the prevalence and socio-demographic correlates of alcohol consumption, tobacco use, and smoking behaviors among men across different age groups, residences, educational levels, occupations, religions, castes, and wealth indices in India.</p> <p>Methods: The study used cross-sectional data from 93,144 men aged 15-49 years. Logistic regression models were applied to assess the odds ratios (OR) of alcohol and tobacco use, smoking cigarettes, and smoking bidis across various socio-demographic variables. The results are presented in odds ratios with 95% confidence intervals (CI), providing insight into the likelihood of substance use behaviors relative to reference categories.</p> <p>Results: Alcohol consumption was highest among men aged 35-49 years (OR: 5.02 [4.66-5.14]), and tobacco use peaked among those with no schooling (61.8%). Men in rural areas were more likely to consume alcohol and tobacco than their urban counterparts (OR for rural alcohol consumption: 0.86 [0.82-0.89], tobacco: 0.87 [0.83-0.90]). Lower educational attainment was strongly associated with higher odds of alcohol and tobacco use, particularly among those with less than five years of schooling. Agricultural workers and manual laborers exhibited a higher prevalence of substance use, with manual workers having the highest odds of alcohol consumption (OR: 2.82 [2.64-3.01]). Significant disparities in substance use were found across religions, with Muslims reporting lower odds of alcohol consumption (OR: 0.14 [0.13-0.15]) compared to Hindus. Smoking behaviors were significantly influenced by wealth, with men in the lowest wealth quintile showing the highest prevalence of bidi smoking (14.3%) and cigarette smoking (14.8%).</p> <p>Conclusion: Substance use in India is influenced by a range of socio-demographic factors, with higher risks observed among older men, rural residents, less educated individuals, and manual workers. Public health interventions must target these vulnerable groups to reduce the burden of alcohol and tobacco-related harm.</p> <p>Reference: Data adapted from a large-scale survey on substance use among Indian men.</p>	<ul style="list-style-type: none"> ▪ ISSN No: 2583-7397 ▪ Received: 30-07-2024 ▪ Accepted: 16-09-2024 ▪ Published: 02-11-2024 ▪ IJCRM:3(6); 2024: 01-06 ▪ ©2024, All Rights Reserved ▪ Plagiarism Checked: Yes ▪ Peer Review Process: Yes <p>How to Cite this Manuscript</p> <p>K. Emmanuel, Rahul Kumar, Ingrid M. Uy. Socio-Demographic Determinants of Alcohol and Tobacco Use Among Men in India: A Cross-Sectional Study. International Journal of Contemporary Research in Multidisciplinary.2024; 3(6):01-06.</p>

KEYWORDS: Alcohol, Tobacco, Public Health, Cigarettes, Smoking Bidis

1. INTRODUCTION

Alcohol and tobacco use present significant public health challenges worldwide, contributing to a considerable burden of morbidity and mortality. In India, the consumption patterns of these substances vary widely across different socio-demographic groups, influenced by a range of factors including age, education, occupation, religion, caste, and economic status (World Health Organization, 2018).^[11] The interplay between cultural, social, and economic contexts adds complexity to the study and regulation of alcohol and tobacco use.

According to the National Family Health Survey (NFHS-5)^[9] conducted between 2019 and 2021, approximately 22.5% of men in India consume alcohol, while 39.1% engage in some form of tobacco use. These figures highlight not only the prevalence of substance use but also the significant variations based on socio-demographic factors.

Research indicates that substance use is closely linked to social determinants of health, which can act as either risk factors or protective barriers. For instance, alcohol consumption tends to be more prevalent among men who are less educated and economically disadvantaged. Many of these individuals may resort to alcohol as a coping mechanism for stress stemming from occupational and financial instability (Kessler *et al.*, 2005).^[12] Similarly, tobacco use is strongly associated with lower socioeconomic status and manual labor occupations, where access to health information is often limited and stress levels are high (Marmot, 2015).^[6] Notably, education emerges as a critical determinant, with higher levels of schooling correlating with reduced rates of substance use (Gate, 2017).^[2]

Age and occupation also play essential roles in influencing substance use behaviors. Young adults, particularly those engaged in manual and unskilled labor, are more susceptible to risky behaviors like drinking and smoking, often driven by peer pressure and stressors in their work environments (Blow *et al.*, 2009).^[1] Furthermore, studies suggest that rural men are more likely to consume alcohol and tobacco compared to their urban counterparts, potentially due to lower health awareness and a greater social acceptance of these behaviors in rural settings (NFHS-5, 2021).^[9]

This study seeks to explore the socio-demographic determinants of alcohol and tobacco use among men in India, utilizing data from NFHS-5. By examining the influence of factors such as age, education, occupation, religion, caste, and wealth index, this research aims to understand how these determinants shape substance uses behaviors comprehensively. Ultimately, insights gained from this study could inform targeted interventions and policies to address the public health concerns surrounding alcohol and tobacco use in diverse Indian populations.

2. REVIEW OF LITERATURE

According to the World Health Organization (2018),^[11] alcohol and tobacco use present significant public health challenges globally, leading to considerable morbidity and mortality. In India, the consumption patterns of these substances are shaped by a complex interplay of socio-demographic factors, including age, education, occupation, religion, caste, and economic status.

The National Family Health Survey (NFHS)^[9] serves as a crucial data source, offering valuable insights into these behaviors and their determinants. As highlighted by NFHS-5 (2019-2021), 22.5% of men in India consume alcohol, while a striking 39.1% use some form of tobacco. These statistics reveal marked variations influenced by different socio-demographic characteristics.

The literature underscores that substance use often intertwines with social determinants of health, acting as either risk factors or protective barriers. Research by Kessler *et al.*, (2005)^[12] indicates that alcohol consumption is notably higher among men who are less educated and economically disadvantaged, frequently serving as a coping mechanism for stress stemming from occupational and financial instability. Similarly, tobacco use demonstrates a strong correlation with lower socioeconomic status, particularly among manual labor occupations, where access to health information is often limited and stress levels tend to be elevated (Marmot, 2015).^[6] The role of education emerges as a significant determinant; studies show that individuals with higher educational attainment are less likely to engage in substance use (Gate, 2017).^[2]

Age and occupation further complicate the landscape of substance use. Young adults, especially those in manual and unskilled labor positions, are particularly susceptible to engaging in risky behaviors such as drinking and smoking, often influenced by peer pressure and stress-related work environments (Blow *et al.*, 2009).^[1] Notably, research indicates that rural men are more likely to consume alcohol and tobacco compared to their urban counterparts. This disparity may be attributed to lower health awareness and a greater social acceptance of these behaviors in rural settings (NFHS-5, 2021).^[9] This study aims to delve into the socio-demographic determinants of alcohol and tobacco use among men in India, utilizing data from NFHS-5. By examining factors such as age, education, occupation, religion, caste, and wealth index, the study aspires to provide a nuanced understanding of how these determinants shape substance use behaviors, thereby contributing to the discourse on public health and policy interventions.

3. METHOD AND DATA SOURCE

The study utilizes data from the National Family Health Survey-5 (NFHS-5) conducted in India between 2019 and 2021. The survey captures demographic and health-related behaviors among men aged 15-49 across different sociodemographic categories, including age, residence, education, occupation, religion, caste, and wealth index. Prevalence rates and odds ratios for alcohol consumption, tobacco use, cigarette smoking, and bidi smoking are analyzed using a nationally representative sample of 93,144 men.

Outcome Variable

The primary outcome variables include the prevalence and odds ratios of alcohol consumption, tobacco use (any form), cigarette smoking, and bidi smoking among men in India, based on sociodemographic characteristics.

Statistical Analysis

The analysis calculates the odds ratios (OR) with 95% confidence intervals (CI) for alcohol, tobacco, cigarette, and bidi consumption. Logistic regression models assess the influence of factors such as age, residence, education, occupation, religion, caste, and wealth index. Comparisons are made using reference categories like younger age groups (15-19 years), urban

residence, no schooling, and the lowest wealth index. The results indicate statistically significant differences in the likelihood of consumption patterns, with variables like age, education, and occupation showing strong associations with substance use behaviors.

Table 1: Prevalence of Alcohol, Tobacco, and Smoking Among Men in India by Age, Residence, Education, Occupation, Religion, Caste, and Wealth Index (NFHS-5, 2019-2021)

Men					
Age	Drink Alcohol	Any Kind of Tobacco	Smoke Cigarettes	Smoke Bidis	Number of Men
15-19	5.8	14.3	6.2	1.2	16385
20-34	22.7	38.6	14.9	4.7	41688
35-49	29.9	51.2	14.5	12.3	35071
Place of residence					
Urban	22.1	32.2	14.6	4.5	32852
Rural	22.6	42.9	12.5	8.3	60291
Schooling					
No schooling	31.6	61.8	15.4	18.7	9982
<5 years complete	32.7	64.1	16.5	18.0	5842
5-7 years complete	28.6	53.1	15.5	10.9	12082
8-9 years complete	21.6	43.5	14.0	6.4	18472
10-11 years complete	19.2	29.6	11.3	3.6	16735
12 or more years complete	17.3	23.5	11.6	1.6	30032
Occupation					
Not in workforce	6.4	6.8	6.6	0.8	18017
Agriculture	24.9	34.8	11.4	11.6	24339
Manual-skilled and unskilled	31.2	33.9	17.1	8.7	24228
Others	23.1	21.7	15.9	5.4	26560
Religion					
Hindu	25.0	39.1	12.7	6.7	73632
Muslim	6.3	40.9	14.4	9.0	14633
Christian	35.5	36.6	24.0	6.9	2426
Otehrs	30.5	35.6	11.0	3.1	2453
Caste/tribe					
Schedule caste	31.1	43.8	15.0	10.6	18977
Schedule tribe	33.6	51.5	15.2	8.5	8441
Other backward class	20.4	35.3	10.9	4.7	38986
Others	16.3	36.9	12.6	5.9	19221
Don't know	14.5	52.0	20.4	10.6	7518
Wealth Index					
Lowest	27.8	58.7	14.8	14.3	15606
Second	23.7	48.8	14.6	9.9	18497
Middle	22.3	38.4	12.8	6.4	19829
Fourth	21.4	31.5	12.8	3.8	20658
Highest	18.1	22.0	11.5	2.1	18553
Total	22.5	39.1	13.2	7.0	93144

The table provides insights into alcohol consumption and tobacco use among men, segmented by age, place of residence, education, occupation, religion, caste, and wealth. It reveals that men aged 35-49 have the highest rates of alcohol (29.9%) and bidi smoking (12.3%). Rural residents report higher rates of tobacco use (42.9%) compared to their urban counterparts (32.2%). Men with no schooling or fewer than five years of education show the highest prevalence of alcohol and tobacco use, while those with more education have significantly lower

rates. Agricultural workers and those in manual labor exhibit high rates of smoking, while men outside the workforce have the lowest. Christians and Scheduled Tribes demonstrate high alcohol consumption, while Hindus have moderate levels. Wealthier men are less likely to consume alcohol or smoke, while the poorest report the highest rates. Overall, the data shows significant variations in substance use patterns based on socioeconomic and demographic factors.

Table 2: Odds Ratios (OR) for Alcohol Consumption Among Men in India by Age, Residence, Education, Occupation, Religion, Caste, and Wealth Index (NFHS-5, 2019-2021)

Alcohol consumption	
Age	OR [95% CI]
15-19®	
20-34	3.93 [3.66-4.23] ***
35-49	5.02 [4.66-5.14] ***
Place of residence	
Urban®	
Rural	0.86 [0.82-0.89] ***
Schooling	
No schooling®	
<5 years complete	1.07 [0.99-1.15] *
5-7 years complete	0.96 [0.90-1.02]
8-9 years complete	0.78 [0.74-0.82] ***
10-11 years complete	0.75 [0.71-0.80] ***
12 or more years complete	0.58 [0.55-0.62] ***
Occupation	
Not in work force®	
Agriculture	1.76 [1.65-1.88] ***
Manual-skilled and unskilled	2.82 [2.64-3.01] ***
Others	2.33 [2.18-2.48] ***
Religion	
Hindu®	
Muslim	0.14 [0.13-0.15] ***
Christian	1.13 [1.06-1.20] ***
Others	1.81 [1.70-1.94] ***
Caste/tribe	
Schedule caste®	
Schedule tribe	1.54 [1.46-1.62] ***
Other backward class	0.81 [0.78-0.85] ***
Others	0.74 [0.70-0.78] ***
Don't know	0.81 [0.73-0.89] ***
Wealth Index	
Lowest®	
Second	0.85 [0.81-0.89] ***
Middle	0.82 [0.78-0.86] ***
Fourth	0.70 [0.66-0.74] ***
Highest	0.65 [0.61-0.70] ***

The table shows the odds ratios (OR) for alcohol consumption based on various factors. The reference group (®) for age is 15-19, with higher odds for older groups, especially ages 35-49 (OR = 5.02). Rural residents are less likely to consume alcohol than urban ones (OR = 0.86). Higher education correlates with reduced odds of alcohol consumption, with those having 12 or more years of schooling showing the lowest odds (OR = 0.58).

Agricultural, manual, and unskilled workers are more likely to drink compared to those not in the workforce. Muslims have significantly lower odds of alcohol use (OR = 0.14) compared to Hindus. Caste and wealth index also influence drinking behaviour, with higher wealth and certain castes (e.g., others) having lower odds of alcohol use.

Table 3: Odds Ratios (OR) for Tobacco Use, Cigarette Smoking, and Bidi Smoking Among Men in India by Age, Residence, Education, Occupation, Religion, Caste, and Wealth Index (NFHS-5, 2019-2021)

	Use any kind of tobacco OR [95% CI]	Smoke cigarettes OR [95% CI]	Smoke bidis OR [95% CI]
Age			
15-19 [Ⓢ]			
20-34	2.82 [2.65-3.00] ***	2.37 [2.20-2.57] ***	4.22 [3.55-5.02] ***
35-49	3.21 [3.02-3.42] ***	2.25 [2.07-2.44] ***	9.35 [7.87-11.11] ***
Place of residence			
Urban [Ⓢ]			
Rural	0.87 [0.83-0.90] ***	0.82 [0.78-0.86] ***	1.13 [1.04-1.22] ***
Schooling			
No schooling [Ⓢ]			
<5 years complete	1.15 [1.08-1.23] ***	1.07 [0.97-1.17]	0.92 [0.84-1.02]
5-7 years complete	1.06 [1.00-1.12] **	1.09 [1.01-1.18] **	0.78 [0.72-0.84] ***
8-9 years complete	1.05 [1.00-1.10] *	1.10 [1.03-1.18] ***	0.53 [0.49-0.58] ***
10-11 years complete	0.74 [0.70-0.78] ***	1.08 [1.00-1.16] **	0.39 [0.35-0.43] ***
12 or more years complete	0.56 [0.53-0.59] ***	0.87 [0.81-0.94] ***	0.16 [0.14-0.18] ***
Occupation			
Not in work force [Ⓢ]			
Agriculture	2.46 [2.31-2.62] ***	1.38 [1.28-1.49] ***	2.32 [1.99-2.70] ***
Manual-skilled and unskilled	2.97 [2.79-3.16] ***	2.00 [1.86-2.16] ***	2.35 [2.02-2.74] ***
Others	2.34 [2.20-2.54] ***	2.10 [1.95-2.26] ***	1.83 [1.56-2.14] ***
Religion			
Hindu [Ⓢ]			
Muslim	0.79 [0.75-0.83] ***	1.24 [1.16-1.31] ***	1.00 [0.91-1.10]
Christian	0.70 [0.66-0.75] ***	2.92 [2.73-3.13] ***	1.82 [1.64-2.01] ***
Others	0.74 [0.69-0.80] ***	1.52 [1.40-1.64] ***	0.81 [0.71-0.93] ***
Caste/tribe			
Schedule caste [Ⓢ]			
Schedule tribe	1.29 [1.22-1.35] ***	1.40 [1.31-1.49] ***	0.65 [0.60-0.71] ***
Other backward class	1.10 [1.06-1.15] ***	0.80 [0.75-0.84] ***	0.62 [0.58-0.67] ***
Others	0.99 [0.94-1.05]	1.02 [0.95-1.09]	0.77 [0.70-0.84] ***
Don't know	0.83 [0.76-0.90] ***	1.24 [1.13-1.37] ***	0.90 [0.79-1.02]
Wealth Index			
Lowest [Ⓢ]			
Second	0.72 [0.69-0.75] ***	1.10 [1.04-1.16] ***	0.95 [0.88-1.01]
Middle	0.50 [0.48-0.52] ***	1.03 [0.96-1.09]	0.78 [0.72-0.84] ***
Fourth	0.37 [0.35-0.39] ***	0.90 [0.83-0.96] ***	0.66 [0.60-0.73] ***
Highest	0.22 [0.21-0.24] ***	0.72 [0.66-0.78] ***	0.60 [0.53-0.69] ***

The table shows the odds ratios (OR) for tobacco use, cigarette smoking, and bidi smoking based on various demographic factors. Age is a strong predictor, with those aged 35-49 significantly more likely to use tobacco and bidis. Rural residents are less likely to smoke cigarettes but slightly more likely to use bidis. Education reduces tobacco use, especially for those with 12+ years of schooling. Agricultural and manual laborers have higher odds of using all forms of tobacco. Religious differences show that Christians have higher odds of smoking cigarettes and bidis. Scheduled tribes and lower wealth indices show increased tobacco use. However, the highest wealth group and those with more education show significantly reduced odds of tobacco consumption, particularly bidis. Overall, factors like age, occupation, education, religion, and caste greatly influence tobacco habits.

4. FINDINGS

The findings reveal significant associations between demographic factors and the consumption of alcohol and tobacco. Age plays a crucial role, with individuals aged 35-49

showing the highest rates of alcohol consumption (29.9%) and any kind of tobacco use, particularly smoking bidis (OR = 9.35), while younger age groups have lower odds. Rural residents are more likely to use bidis but less likely to consume alcohol and cigarettes than urban residents. Education is inversely related to substance use, with those having 12 or more years of schooling exhibiting the lowest odds for both alcohol (OR = 0.58) and tobacco use, especially bidis (OR = 0.16). Occupation matters too, with manual laborers showing higher rates of alcohol (OR = 2.82) and tobacco use (OR = 2.97). Religion and caste play a role as well: Christians show higher odds for alcohol and cigarette use, while Muslims have the lowest alcohol consumption odds (OR = 0.14). Scheduled Tribes have a higher likelihood of using tobacco but a lower rate of bidi smoking. Lastly, wealthier individuals are less likely to engage in substance use, with the highest wealth index group having the lowest odds of both alcohol (OR = 0.65) and tobacco consumption (OR = 0.22).

5. RESULT AND DISCUSSION

The analysis highlights significant demographic disparities in alcohol and tobacco consumption among men. The highest alcohol consumption occurs in individuals aged 35-49 years, with those lacking education and engaged in manual labor also exhibiting elevated rates of use. Tobacco consumption follows a similar trend, with unskilled laborers and those without schooling at the highest risk, particularly for smoking bidis. Conversely, individuals with higher education and wealth show significantly lower odds of alcohol and tobacco use, suggesting that education and economic status serve as protective factors. Muslims report the lowest alcohol consumption, which may be influenced by religious or cultural practices, while Scheduled Tribes show higher odds of alcohol and tobacco use. These findings emphasize the need for targeted interventions, particularly among older, less educated, and lower-income groups, to address the health risks associated with alcohol and tobacco consumption, alongside culturally sensitive approaches for different communities.

6. CONCLUSION

The findings from NFHS-5 (2019-2021) reveal significant variations in alcohol, tobacco, and smoking habits among men in India based on age, education, occupation, religion, caste, residence, and wealth. Men aged 35-49 and those with less education or working in manual labor are at higher risk for alcohol and tobacco use. Rural residents, Scheduled Castes, and Tribes show higher prevalence rates. Wealth and education act as protective factors, with more educated and affluent men consuming less alcohol and tobacco. Religion also plays a role, with Muslims showing lower odds of alcohol consumption. These results underscore the importance of targeted interventions for vulnerable groups.

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