

Alcohol and Tobacco Consumption among Indian Women

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Abstract

Excessive consumption of alcohol and tobacco is a serious public health issue. However, consumption among women is an underexplored area, especially in the context of India. This study aims to explore the factors associated with a greater likelihood of Indian women consuming alcohol and tobacco; the inputs can be used to profile women at higher risk of doing so. The study is based on the latest round of the National Family and Health Survey (NFHS), a large-scale and nationally representative dataset. It employs logistic regression to determine factors that are linked to higher odds of Indian women consuming alcohol and tobacco. We found that, while rural women consume more alcohol as compared to their urban counterparts, their consumption of tobacco is lower. Also, less-educated women consume more of both alcohol and tobacco and the same holds true for women whose husbands/partners are less educated. Also, women with alcoholic husbands/partners consume more alcohol. The paper represents an important addition to gender-focused research on the neglected area of alcohol and tobacco consumption among Indian women, and makes an important contribution toward policy formulation for reducing their consumption of these products.

Key words

alcohol, tobacco, women, India, logistic regression

Introduction

Excessive alcohol and tobacco consumption is known to be a significant risk factor for illness, disablement, and even death (Rehm et al., 2010; Ezzati & Lopez, 2003; Shield, Parry, & Rehm, 2013); yet, alcohol and tobacco addiction remain

major problems in many countries. Abusive levels of alcohol consumption are harmful and can lead to heart and liver disease, tumors, strokes, and depression (WHO, 2018). They are also linked to mental conditions and suicidal behavioral tendencies (McGrath et al., 2003). Alcohol consumption is a factor in a measurable percentage of deaths in Africa (5.1%), the Americas (5.5%), South-East Asia (4.5%), Europe (10.1%), the Eastern Mediterranean (0.7%), and the Western Pacific Region (4.1%) (WHO, 2018). This WHO report also shows that annual alcohol consumption per person (15+ years) for India, measured in quantities of pure alcohol, has risen from 2.4 liters in 2005 to 4.3 liters in 2010 and 5.7 liters in 2016, with the equivalent averages for the South-East Asian region for the same years being 2.1, 3.5, and 4.5 liters. The report also predicts that, by 2025, the highest increase is expected to be in South-East Asia with consumption per capita increasing by 1.7 liters compared to 2016 levels, with an increase of 2.2 liters alone in India.

The consumption of tobacco-based products is known to be related with a variety of diseases, including cancers, heart and lung disease, diabetes, eye diseases, and arthritis (IIPS & ICF, 2017). Tobacco consumption causes an estimated 8 million deaths a year (WHO, 2019) and by 2030 it is expected that tobacco will be the main cause of mortality around the globe, leading to the deaths of 10 million persons per year (Sandford, 2003). Moreover, owing to stricter regulation and increased taxation in developed countries, the tobacco industry has shifted its focus toward developing countries, including India, where laws pertaining to tobacco products remain relatively weak (Eriksen, Nyman, & Whitney, 2014) and population growth rates are high (WHO, 2011). The market strategies of these tobacco companies have led to fierce competition between tobacco companies for a share of the still-growing tobacco trade in low-income countries (Joossens, 2000). The International Institute for Population Sciences (IIPS) and the International Classification of Functioning, Disability and Health (ICF) also mention that available studies suggest that women not only share the risks which are common to males and females but also specific risks related to pregnancy like difficulty in becoming pregnant, higher chances of infertility, complicated pregnancies, miscarriages, and delivery complications like premature births, low-birth-weight babies, stillbirths, and infant deaths among others (IIPS & ICF, 2017).

Previous studies have shown that alcohol consumption depends on socio-demographic factors, health conditions, and lifestyle and environmental factors. Socio-demographic factors help to identify the characteristics of consumers and

can also help to identify risky behaviors. Significant factors affecting the level of an individual's alcohol consumption are the education level of the individual, education of the head of household, parents' education, individual's age and individual's age at onset of use (Caamaño-Isorna, Corral, Parada, & Cadaveira, 2008; Dantzer, Wardle, Fuller, Pampalona, & Steptoe, 2006; Stafström & Agardh, 2013). Other common factors affecting alcohol use are religion, ethnicity, race, and caste (Barros, Botega, Dalgarrondo, Marín-León, & Oliveira, 2007; Chaturvedi & Mahanta, 2004; Iparraguirre, 2015). Social class, income, wealth quintile, or poverty also affect alcohol use (Blay, Fillenbaum, Andreoli, & Gastal, 2009; Neufeld, Peters, Rani, Bonu, & Brooner, 2005), as do an individual's occupation (Barros et al., 2007; Chaturvedi & Mahanta, 2004) and residence in a rural or urban area (Neufeld et al., 2005). These socio-demographic factors are also common in explaining levels of tobacco consumption.

One of the main socio-demographic variables that influences alcohol consumption is gender (Blay et al., 2009; Peltzer & Phaswana-Mafuya, 2013) hitherto in a majority of studies of India, men have been found to be at higher risk than women. Based on their extensive literature review, Amos, Greaves, Nichter, and Bloch (2012) argued that considerations of gender in research, policy, and programs related to tobacco control are limited and called for gender analysis to identify factors behind women's use of tobacco. However, there is a dearth of studies in an Indian context focusing specifically and solely on tobacco and alcohol consumption among women, a gap in the literature filled by our study. It is true that several studies related to alcohol and tobacco consumption in India have been conducted, but our attempt is unique in its aim of studying consumption solely among Indian women. We use National Family Health Survey data, a large-scale, nationally representative dataset, and employ logistic regression for our analysis. Through the identification of factors affecting consumption among Indian women, we try to understand what leads to a greater likelihood of their consuming alcohol and tobacco and thereby help provide inputs for gendered policy intervention focused on specific at-risk groups to control this tendency.

Methodology

The present paper is based on the fourth round of the National Family Health Survey (NFHS), a wide, multi-round survey that covers a nationally representative sample of households in India. The NFHS-IV round surveyed 723,875 women aged between 15 and 49. In this paper, we try to identify the factors that affect the

odds of alcohol or tobacco consumption among Indian women.

To find out these factors, we used logistic regression, with alcohol consumption as a binary dependent variable which takes value 1 if a woman consumes alcohol and 0 otherwise, and an identical dependent variable was used for the analysis of tobacco consumption. For independent variables, we selected several socio-economic variables to control for their effect. These variables were divided into four categories as below.

Household Characteristics

This includes variables like place of residence (rural vs. urban), social group (Scheduled Castes, Other Backward Classes, Scheduled Tribes, and Generals¹), religion (Hinduism, Islam, Christianity, Sikhism, Buddhism, and Others), wealth index (poorest, poorer, middle, richer, and richest) and the sex of the person heading the household. The NFHS dataset divides households into different wealth groups and we use the same breakdown. IIPS and ICF (2017) constructed a wealth index based on household characteristics and assets. While characteristics include electricity, toilet type, and source of drinking water, assets gauge the ownership of things like cars, televisions, and mobile phones, among others. These components are assigned weights based on principal component analysis, and the asset scores generated are standardized. The household is then assigned an asset score for their possessions, and these scores are then summed for each household. While households are divided into five categories in the dataset, for our analysis we merged the two categories for poor and the two categories for rich, giving three categories (Poor, Average, and Rich).

These variables have been included as household-level characteristics and can have an important bearing on alcohol and tobacco consumption among women. It is important to understand how the rural versus urban settings can affect women's consumption of alcohol and tobacco. This is because societal and local customs as regards alcohol differ in rural and urban areas, as does the availability of alcohol

¹ “Scheduled tribes” and “Scheduled castes” are administrative terms for giving constitutional concessions and safeguards to groups who are considered to be backward and disadvantaged. Schedule tribes generally inhabit remote areas, depend on primitive livelihoods and are considered to be the natives to the country (Mitra, 2008). The scheduled castes are groups of the people at the low level in Indian hereditary caste system and were subjected to untouchability in past (Deshpande, 2000). Other backward classes (OBC) are socially and educationally backward classes (Ramaiah, 1992). The remaining groups are categorized under “Generals”.

and tobacco and women's access to them. The wealth index has been added as a household's economic status can have bearing on alcohol and tobacco consumption among women, with rich households expected to have higher disposable incomes which can be spent on these items.

Women's Characteristics

This includes variables like respondent's current age divided into four groups, 15–19 years, 20–29 years, 30–39 years and 40–49 years (the grouping stops at 49 years as the NFHS only covered women respondents in an age range of 15–49 years), the highest educational level achieved (no education, primary, secondary, higher education), occupation (not in work force/no occupation, services/household and domestic, manual-skilled and unskilled, agricultural, professional/technical/managerial/clerical/sales), number of children, having control over household financial decisions, and if the woman reads a newspaper, listens to the radio, or watches TV.

Previous studies have indicated the importance of these variables. Alcohol consumption is related to the education level of the individual concerned or the head of household, and has been used in the literature as a proxy for socioeconomic status, and for information about and awareness of the consequences of consumption (Caamaño-Isorna et al., 2008; Stafström & Agardh, 2013). Hence, we have also taken women's education as an indicator. The variables related to women's occupations and control over financial decisions have been taken as they can be used as a proxy for women's disposable income and financial independence, which can affect the decision to consume alcohol and tobacco. Information on women's exposure to radio, TV, and newspapers is taken as a proxy for their awareness about the harm of alcohol and tobacco consumption.

Husband/Partner Characteristics

This includes variables like husband's/partner's age with respect to the woman's age (woman older, same age, man older), husband's/partner's education level (no education, primary, secondary, higher education), husband's/partner's occupation (not in work force/no occupation, services/household and domestic, manual-skilled and unskilled, agricultural, professional/technical/managerial/clerical/sales), and whether the husband/partner drinks alcohol. It is important to understand the impact of husband-/partner-related characteristics as India is mostly

patriarchal in nature, and hence a husband's/partner's socio-economic features can have an important bearing on a woman's alcohol and/or tobacco consumption.

Further, given the geographical vastness of the country, we divided the 29 states and 7 Union Territories (UTs) of India into 6 different zones following IIPS and ICF (2017) for a clearer understanding of state differentials. The zones are as follows:

1. Northern Zone: Punjab, Haryana, Rajasthan, Jammu and Kashmir, Himachal Pradesh, Delhi (UT), Chandigarh (UT)
2. North-East zone: Arunachal Pradesh, Nagaland, Assam, Manipur, Sikkim, Mizoram, Meghalaya, Tripura
3. Central Zone: Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttarakhand
4. Eastern Zone: West Bengal, Jharkhand, Bihar and Odisha
5. Western Zone: Goa, Maharashtra, Gujarat, Dadra, Nagar Haveli (UT), Daman and Diu (UT)
6. Southern Zone: Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, Kerala, Andaman and Nicobar Islands (UT), Lakshadweep (UT), Puducherry (UT)

For the analysis, the authors have employed a logistic regression model. Mathematically, the logistic regression can be represented as:

$$L_i = \ln (P_i / 1-P_i) = \beta_0 + \beta_1 X_i$$

where, L is the log of the odds ratio, P is the probability of an event occurring, and X_i are one of the independent variables. In our case, P_i = Probability of a woman drinking alcohol/consuming tobacco products. Hence, $P_i / 1-P_i$ represents the odds of drinking alcohol/consuming tobacco products. The independent variables in our study, represented by X_i , are the characteristics of women's households, women, their husbands or partners, and the geographical categorization of Indian states and UTs.

Hence, the model used for this analysis is as follows:

$$\begin{aligned} \text{Log (odds ratio of drinking alcohol/consuming tobacco products)} = \\ b_0 + b_1 \text{ (independent variables related to household characteristics)} + \\ b_2 \text{ (independent variables related to women's characteristics)} + b_3 \\ \text{(independent variables related to husband/partner characteristics)} + b_4 \\ \text{(dummy variables related to the states of India).} \end{aligned}$$

Overall, we are working with two models, one for the factors affecting the drinking of alcohol by Indian women and the other the factors affecting the consumption of tobacco products by Indian women.

Results

The descriptive statistics of the study variables are given in Table 1.

Table 1
Characteristics of women covered in NFHS 4 (%)

Place of Residence	Urban	34.6
	Rural	65.4
Social Group	Scheduled Caste	21.2
	Scheduled Tribe	9.5
	Other Backward Classes	45.2
	General	23.4
Religion	Hindu	80.7
	Muslim	13.8
	Christian	2.4
	Sikh	1.7
	Buddhist	0.9
	Others	0.5
	Wealth Index	Poorest
Average		20.6
Richest		42.2
Age	15-19	17.4
	20-29	34.0
	30-39	26.8
	40-49	21.8
Highest Educational Level	No education	27.5
	Primary	12.5
	Secondary	47.3
	Higher Education	12.8
Woman's Occupation	Not in work force/no occupation	70.6
	Services/household and domestic	3.5
	Manual-skilled and unskilled	6.4
	Agricultural	14.8
	Professional/technical/managerial/clerical/sales	4.8

Source: NFHS (2017) and authors' calculation

In India, only 1% of women consume alcohol, which is low compared to a consumption level among Indian men of 29%. The percentage of Indian women drinking alcohol has decreased from 2% in 2005-06 to 1% in 2015-16. According

to those latest figures, the women who did consume alcohol, 18% drank alcohol daily and 35% weekly.

The use of tobacco by Indian women declined from 11% in 2005–06 to 7% in 2015–16. According to these latest figures, 7% of women aged 15–49 consume tobacco-based products (as compared to 45% of men). Chewing *paan*, *paan masala*, and *gutkha* (various combinations of betel leaf and areca nut with other substances added) containing tobacco were the most common forms in which tobacco was used by Indian women (IIPS & ICF, 2017). Alcohol and tobacco consumption among women by state is given in Table A, and the figures by region are presented in Table B, both in Appendix 1. We note that, among the Indian states and UTs, alcohol consumption among women was most prevalent in Arunachal Pradesh at 26%, followed closely by Sikkim at 23% (IIPS & ICF, 2017).

Table 2
Factors Affecting Alcohol and Tobacco Consumption among Indian women

Variables/Categories		Odds Ratio	
		Alcohol Consumption	Tobacco Consumption
Place of Residence [Base - Urban]	Rural	1.402*** (0.140)	0.785*** (0.029)
Social Group [Base - Scheduled Caste]	Scheduled Tribe	5.955*** (0.680)	1.439*** (0.064)
	Other Backward Class	1.031 (0.130)	0.769*** (0.031)
Religion [Base - Hindu]	General	1.340** (0.200)	0.812*** (0.041)
	Muslim	0.051*** (0.037)	1.147*** (0.057)
	Christian	0.226*** (0.029)	1.193*** (0.065)
	Sikh	0.319 (0.323)	0.084*** (0.042)
	Buddhist	2.660*** (0.428)	0.423*** (0.048)
Wealth Index [Base - Poorest]	Average	0.743*** (0.073)	0.719*** (0.028)
	Richest	1.229* (0.137)	0.526*** (0.0240)
Household head [Base - Male]	Female	0.777** (0.088)	0.957 (0.0426)
States of India: 6 Zones [Base - Northern]	North-East	27.01*** (5.605)	11.41*** (0.745)
	Central	4.122*** (0.831)	3.142*** (0.187)
	Eastern	3.443*** (0.722)	2.144*** (0.139)
	Western	1.384 (0.402)	2.001*** (0.144)
	Southern	4.892*** (1.080)	1.134 (0.087)
Age [Base - 15–19 years]	20–29	1.688 (0.553)	1.476*** (0.170)
	30–39	2.084** (0.686)	2.053*** (0.239)
	40–49	2.504*** (0.831)	3.023*** (0.356)

Variables/Categories		Odds Ratio	
		Alcohol Consumption	Tobacco Consumption
Highest educational level [Base - No education]	Primary	0.629*** (0.064)	0.901** (0.037)
	Secondary	0.506*** (0.047)	0.583*** (0.024)
	Higher	0.469*** (0.097)	0.269*** (0.025)
Woman's occupation [Base - Agricultural]	Not in work force/no occupation	0.818** (0.066)	0.617*** (0.023)
	Services/household and domestic	0.826 (0.148)	0.968 (0.067)
	Manual-skilled and unskilled	1.387*** (0.160)	1.276*** (0.065)
	Professional/technical/managerial/clerical/sales	0.976 (0.153)	0.980 (0.069)
Has children [Base - No]	Yes	0.873 (0.118)	1.158** (0.073)
Has control over the financial decisions of the household [Base - No]	Yes	0.831 (0.123)	0.925 (0.062)
Reads newspaper/listens to radio/watches TV [Base - No]	Yes	0.861* (0.067)	1.432*** (0.052)
Husband's/partner's age wrt to woman's age [Base - Woman older than husband]	Same age	1.740** (0.431)	0.647*** (0.066)
	Husband older than woman	1.754*** (0.338)	0.702*** (0.049)
Husband's/partner's education level [Base - No education]	Primary	0.739*** (0.070)	0.938 (0.039)
	Secondary	0.654*** (0.058)	0.747*** (0.029)
	Higher	0.697** (0.118)	0.604*** (0.043)
Husband's/partner's occupation [Base - Not in work force/no occupation]	Services/household and domestic	2.154*** (0.620)	0.723*** (0.060)
	Manual-skilled and unskilled	1.933** (0.541)	0.912 (0.067)
	Agricultural	2.368*** (0.655)	0.734*** (0.054)
	Professional/technical/managerial/clerical/sales	1.970** (0.563)	0.716*** (0.056)
Husband/Partner drinks alcohol [Base - No]	Yes	5.462*** (0.420)	
Constant		0,000258*** (0,000145)	0,0600*** (0,0109)
Observations		45,294	61,671

Note. Robust standard errors in parentheses.

= * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

As far as the factors involved in alcohol and tobacco consumption are concerned, we discuss the results for each separately. The odds of drinking alcohol are significantly higher for women from rural areas or those belonging to Scheduled Tribe Households and General Households, as shown in Table 2. Subramanian, Nandy, Micheele, Gordon, and Smith (2004) also found evidence of higher consumption of alcohol among tribal women. In the context of religious affiliation, Muslims and Christians have lower odds of drinking than Hindus, whereas Buddhists are more likely to drink alcohol than Hindus. The women belonging to the richest households have higher odds of drinking than those in the poorest households, while women from average households are less likely to drink than their poorest counterparts. This contrasts with the findings of Subramanian et al. (2004) which found that odds of women drinking alcohol increased with rising standard of living. The women in a household are less likely to drink alcohol when the head of that household is a woman.

As far as different regions are concerned, women in the northern states of India are the least likely to drink alcohol as compared to other states. Women who are older, have less education, and are employed in manual labor or agriculture activities have significantly higher odds of drinking. On the other hand, reading newspapers, watching TV, or listening to the radio decreases a woman's odds of drinking. Women younger than their husbands, having husbands with no education, or whose husbands/partners drink are more likely to drink alcohol. On the other hand, the odds of women whose husbands are not working drinking alcohol are lower.

Urban women are significantly more likely to use tobacco than their rural counterparts. In the case of social groups, women from Scheduled Tribe households have higher odds of consuming tobacco compared to women from Scheduled Caste households, whereas those from General and Other Backward Class households have lower odds than the Scheduled Caste group. Filho, de Campos, and Lopes (2012), Rani, Bonu, Jha, Nguyen, and Jamjoum (2003), and Vargas, Lucchese, da Silva, Guimarães, Vera, and de Castro (2017) also found ethnicity, caste, and religion to be important factors in determining tobacco consumption. Women from Muslim households are more likely to use tobacco compared to Hindu households while Buddhist women are less likely. In general, women belonging to the poorest households have the highest odds of consuming tobacco.

As far as different regions of India are concerned, women from the northern region of India are the least likely to consume tobacco, while older women, women

who have no education and women who are employed have higher odds of consuming tobacco. Aristei and Pieroni (2011), Rani et al. (2003), Singh and Ladusingh (2014), and Sreeramareddy, Pradhan, and Sin (2014) also found education to be an important factor in determining tobacco consumption. Moreover, women with children or women with access to newspaper/radio/TV have higher odds of consuming tobacco. Women older than their husbands and whose husbands have no education are more likely to consume tobacco. However, women whose husbands are working are less likely to do so.

Apart from the factors discussed above, studies have also identified other factors that affect Indian women's alcohol and/or tobacco consumption. Subramanian, Nandy, Irving, Gordon, and Smith (2005) shared an interesting finding that prohibition policies in certain states may have reduced the proportion of women who consume alcohol. Das, Balakrishnan, and Vasudevan (2006) discussed the possibility of the existence of cultural and ethnic variations in alcohol consumption. Mohan, Chopra, Ray, and Sethi (2001) argued that over time alcohol consumption in general has changed from occasional to social with a common objective of consuming it in order to get drunk. Focusing on Indian college students, Kirmani and Suman (2010) found that social, cognitive, and emotional factors, including attitudes, distress, and peer impact, are associated with consumption of alcohol among young people.

Discussion

In this paper, we examine the current situation regarding alcohol and tobacco consumption and the factors associated with that consumption among Indian women in the age group 15–49. Consumption has decreased over recent years (from 2005–06 to 2015–16) to a current level of 1% of women for alcohol and 7% of women for tobacco. These percentages may seem low; however, it is important to remember that India houses a large population and is the second most populated country on this globe. Hence, in absolute terms these numbers translate into a very large female population which is vulnerable to the adverse impacts of alcohol and tobacco consumption. Research focusing on women can provide inputs for policy formulation to further lower these consumption levels by identifying the factors that increase the chances of these products, which are known to adversely impact health, being consumed.

The finding that while rural women consume more alcohol compared to their urban counterparts their consumption of tobacco is lower calls for a differ-

entiated approach for advertising and women-focused public awareness programs in rural and urban areas. These programs should chalk out multi-pronged strategies and include the use of multimedia resources like print, audio, video, and digital media, involving grassroots workers and engaging with the non-governmental sector. Further, initiatives like talks in colleges, villages, and neighborhoods can also be employed. The focus should be to make women aware of the harmful impacts of tobacco and alcohol consumption on their health and well-being with the objective of reducing their use among Indian women.

The findings of our study are useful for identifying the groups which are more susceptible to tobacco and alcohol consumption and thereby making these campaigns more focused and concentrated. Since the problem of tobacco consumption is more common among urban women, efforts should be made to spread awareness among women in these regions about the detrimental impacts of tobacco consumption. While women from the richest households consume more alcohol, the reverse is true in the case of tobacco consumption. The higher likelihood of poor women consuming tobacco can lead to higher costs in terms of health as this cohort may not have the financial resources to address health complications, hence creating an additional burden on their limited assets. Also, less educated women or those with husbands/partners with low levels of education consume more of both alcohol and tobacco. This is an important finding which shows the importance of focusing on groups with low educational levels. India is a developing country and medical and health resources remain limited. In this scenario, the age-old adage that prevention is better than cure has never been truer. Our analysis contributes to moving in this direction by identifying the factors which increase the odds of these substances being consumed by women. Further work in the form of focused studies—including primary data and detailed interviews based on case studies—of women belonging to various strata and of different groups like students, tribal women, and working women, among others, may shed more light on the drivers behind alcohol and tobacco consumption and how these factors differ across different groups of women. This would reveal the role of local, social, and cultural factors, as well as the gender dynamics behind this consumption. It would also be worthwhile studying the role of gender gaps in the consumption of alcohol and tobacco among women in varied settings.

Conclusion

Our study was focused on identifying the factors that affect the odds of Indian women consuming alcohol and tobacco. In this way, the findings make an important contribution to the existing literature by virtue of the study's focusing exclusively on women's alcohol and tobacco consumption, and in an Indian context. We found that the odds of consuming alcohol are higher among rural women, whereas the reverse is true for tobacco. The odds for tobacco consumption are higher among poor women, highlighting their higher vulnerability to the side effects of tobacco. We also found that women residing in the north-eastern zone are much more likely to consume both alcohol and tobacco. Another important finding was that the odds of consuming both alcohol and tobacco decreased as the level of women's education increased. Having identified the main factors which lead to a greater likelihood of women consuming alcohol and tobacco, the findings of our study can contribute to designing effective public programs aimed at reducing their consumption among women.

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APPENDIX

Table A
Alcohol and tobacco consumption among women in Indian states, 2015–16

State/Union Territory	Percentage of women who drink alcohol	Percentage of women who use any form of tobacco
Chandigarh	0.5	0.4
Delhi	0.6	1.6
Haryana	0.1	1.6
Himachal Pradesh	0.3	0.5
Jammu and Kashmir	0.1	2.8
Punjab	0.1	0.1
Rajasthan	0.1	6.3
Uttarakhand	0.3	2.9
Chhattisgarh	5.0	21.6
Madhya Pradesh	1.6	10.4
Uttar Pradesh	0.1	7.6
Bihar	0.2	2.8
Jharkhand	4.1	5.8
Odisha	2.4	17.3
West Bengal	0.8	8.7
Arunachal Pradesh	26.3	17.7
Assam	6.9	19.7
Manipur	6.1	48.8
Meghalaya	2.1	32.3
Mizoram	4.9	59.5
Nagaland	3.3	27.4
Sikkim	23	7.3
Tripura	4.8	42.2
Dadra and Nagar Haveli	0.0	2.1
Daman and Diu	1.4	0.5
Goa	4.2	1.9
Gujarat	0.3	7.4
Maharashtra	0.2	5.8
Andaman and Nicobar Islands	2.5	25.1
Andhra Pradesh	0.4	2.3
Karnataka	1.0	4.2
Kerala	1.6	0.8
Lakshadweep	0.0	16.4
Puducherry	0.6	1.1
Tamil Nadu	0.4	2.2
Telangana	8.7	2.8
India	1.2	6.8

Source: NFHS (2017) and authors' calculation

Table B

Alcohol and tobacco consumption across different regions, 2015–16

Region	Alcohol consumption (percent of women)	Tobacco consumption (percent of women)
Northern	0.2	3.3
North-East	6.9	25.0
Central	1.0	9.5
Eastern	1.2	7.6
Western	0.3	6.3
Southern	1.8	2.6
Total	1.2	6.8

Source: NFHS (2017) and authors' calculation

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