



# GLOBAL ADULT TOBACCO SURVEY

SECOND ROUND



सत्यमेव जयते

Ministry of Health and Family Welfare  
Govt. of India



World Health  
Organization





INDIA 2016-2017 | REPORT

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Global Adult Tobacco Survey: India 2016-17 Report

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The Second Round of the Global Adult Tobacco Survey India, 2016-17 (GATS 2 India) has been conducted by the Tata Institute of Social Sciences, Mumbai as per the standard protocols under Global Tobacco Surveillance System (GTSS).

All reasonable precautions have been taken by the Ministry of Health & Family Welfare to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied.

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Government of India



### Message



The completion of the second round of the Global Adult Tobacco Survey (GATS-2), India, 2016-2017 and publication of its full report, marks an important milestone in the efforts of the Government of India to intensify tobacco control measures. I commend the Ministry of Health & Family Welfare, GOI, and all partners for having successfully completed the Survey.

2. This report shows us that our past efforts at tobacco control have yielded positive outcomes in terms of reduced prevalence of tobacco use and increased awareness. However, this report also alerts us that we still have a long way to go. The prevalence of tobacco use and exposure to second hand smoke is still unacceptably high. India has a rising burden of non-communicable diseases and the use of tobacco is its single most important preventable cause.

3. India is not only one of the largest consumers of tobacco in the world, it is also one of the largest producers of tobacco and tobacco products. The Government of India is committed to finding alternative farming and employment opportunities for those involved in tobacco production and trade. I commend the initiative of the Ministry of Labour and Employment, GOI, to provide skill building training to bidi rollers in an effort to shift them to alternative vocations and thereby protect them and their families from the health hazards of bidi rolling.

4. Under the National Health Policy, 2017 we have set a target of 30% relative reduction in tobacco use by 2025. The recommendations included in this report provide pathways for future policy action to achieve this target.

5. I am hopeful that this report will provide a renewed motivation and urgency to Central and State Governments, health care professionals, institutions and civil society organisations, to increase their efforts to march ahead with passion and commitment for curbing the scourge of tobacco use from our Country.

(Jagat Prakash Nadda)

New Delhi,  
May 28, 2018

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सत्यमेव जयते  
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स्वास्थ्य एवं परिवार कल्याण राज्य मंत्री  
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MINISTER OF STATE FOR  
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GOVERNMENT OF INDIA



## MESSAGE

I am happy to take a note that Ministry of Health & Family Welfare has implemented two rounds of Global Adult Tobacco Surveys (GATS) in 2009-10 and 2016-17. GATS 2 was carried out in all the 30 States of India and in the two Union Territories (UTs) of Chandigarh and Puducherry. GATS provides information on respondents' background characteristics, tobacco use (smoking and smokeless), cessation, second hand smoke exposure, economics, media, and knowledge, attitudes and perceptions towards tobacco use. GATS enhances countries' capacity to design, implement and evaluate tobacco control policies and programs. It also assists countries to fulfill their obligations under the WHO FCTC to generate comparable data within and across countries.

The Government of India has taken note of the tobacco epidemic and has responded by initiating several tobacco control measures to contain the same. The Government's regulatory action towards tobacco control began in 2003 with the enactment of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA). India has been one of the earliest nations to ratify the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2004. In 2007-08 India launched its dedicated National Tobacco Control Programme. Recognizing the importance of high quality information on tobacco use to guide its tobacco control policy and programs, the Government of India has also been in the forefront to undertake the global tobacco surveys. These surveys are part of the Global Tobacco Surveillance System (GTSS).

I am extremely hopeful that this report will give a new impetus to the implementation of tobacco control policies in the country.

(Ashwini Kumar Choubey)

New Delhi  
June, 2018







अनुप्रिया पटेल  
Anupriya Patel



सत्यमेव जयते



एक कदम स्वच्छता की ओर

स्वास्थ्य एवं परिवार कल्याण राज्य मंत्री  
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## MESSAGE

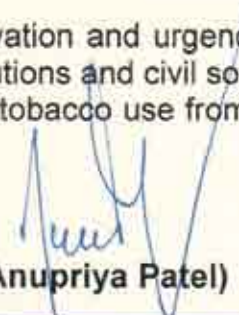
It is a matter of pride that India has been at the forefront of the World Health Organization (WHO)'s Framework Convention on Tobacco Control and tobacco control surveillance activities in the world. One milestone in this direction has been achieved by us with the completion the second round of Global Adult Tobacco Survey (GATS) which keeps track of all key tobacco control indicators.

The second report of GATS shows that the initiatives taken by the Government for tobacco control are in right direction and India has begun to turn the tide on the tobacco epidemic. From GATS-1 (2009-10) to GATS-2 (2016-17), prevalence of any form of tobacco in India has decreased significantly by six percentage points from 34.6% to 28.6% and proportion of households in which smoking is allowed, has decreased from 60.4% to 48.8%. These results have been possible due to combined efforts of the Union and the State Governments such as anti-tobacco messaging in media, total ban on the manufacture & sale of gutka and pan masala by many states, hike in taxes on tobacco products and increase in health warning coverage on tobacco package to 85% etc.

India is still the third largest tobacco producing country in the world and has second highest number of tobacco users. A large number of non-smokers are exposed to second-hand smoke at home especially the poorest sections of our society. The consequent ill health, deaths and disability is not only pushing these families further into poverty, but also leading to considerable increase in Government's health expenditure. We will have to be very careful about the emerging forms of tobacco use enticing our children and youth.

As responsible global citizen, it is our duty to protect our future generations from the lure of new and emerging tobacco products. The Government of India is committed to significantly reduce the tobacco use in the country and in the National Health Policy 2017, it has set target for reduction of 15% in tobacco use by 2020 and 30% by 2025.

I am hopeful that this report will provide a renewed motivation and urgency to Central and State Governments, health care professionals, institutions and civil society organizations to increase their efforts for curbing the scourge of tobacco use from our country.

  
(Anupriya Patel)

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Government of India  
Department of Health and Family Welfare  
Ministry of Health & Family Welfare



## FOREWORD

Tobacco use is the leading single preventable cause of deaths globally. India is the third largest tobacco producing nation and second largest consumer of tobacco worldwide. Tobacco use is estimated to cause more than 1.3 million deaths in India. The extensive use of smokeless tobacco has led to India having the highest incidence of oral cancers. We also know that tobacco use is related to greater susceptibility to tuberculosis and in the context of rising multi-drug-resistant tuberculosis, this is one more reason why we have a special urgency for tobacco control.

The Government of India has been a pioneer in tobacco control, having enacted the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, in 2003 and by becoming one of the earliest nations to ratify the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2004 and by launching a dedicated National Tobacco Control Programme in 2007-08.

As can be seen from the results of the second round of the global adult tobacco survey, these efforts are beginning to show results, in terms of declining prevalence of tobacco use, and exposure to second hand smoke. But much more needs to be done. This report provides detailed information at the national and State level on prevalence of tobacco use, exposure to second hand smoking, cessation services, public awareness on the harmful effects of tobacco use and the efforts being made in its control.

Such a detailed and scientifically rigorous nationwide survey could be achieved only because of the partnership between the Ministry of Health and Family Welfare, the World Health Organization and US Centres for Disease Control and Prevention. I commend the hard work and expertise deployed by the implementing agency, the Tata Institute of Social Sciences, Mumbai, the technical oversight provided by the members of the national Technical Advisory and Monitoring Committee and our colleagues looking after tobacco control in the Ministry.

I congratulate Tata Institute of Social Sciences, Mumbai and partners for successfully completing the survey and bringing out GATS 2 India report. The report will serve as an evidence base to strengthen tobacco control initiatives and also serve as an authoritative reference for policy makers, public health professionals and other stakeholders concerned with tobacco control in the country.

  
(Preeti Sudan)



# ACKNOWLEDGEMENTS



The Global Adult Tobacco Survey, Second Round, 2016-17 has been successfully completed as a result of the collective efforts of the partner organizations and the dedication displayed by the individuals deployed by them for the survey.

The Tata Institute of Social Sciences, Mumbai expresses its gratitude to the Ministry of Health and Family Welfare, Government of India for entrusting us with this very challenging task of implementing the GATS 2 India – 2016-17. We express our thanks to the Secretary Ms. Preeti Sudan, the Director General of Health Services Dr. Promila Gupta, the Additional Secretaries Mr. Manoj Jhalani and Mr. Sanjeeva Kumar, the Joint Secretary Mr. Vikas Sheel and the Economic Adviser Mr. Arun Kumar Jha for their support in this work. Our special thanks to Dr. C R K Nair, Mr. Amal Pusp, Dr. Jagdish Kaur, Dr. L. Swasticharan, Mr. Devesh Deval, Mr S.K. Sudhakar and Ms. Pooja Gupta for their technical partnership and administrative support at different stages of the survey.

We gratefully acknowledge a productive and valuable collaboration with the World Health Organization, South East Asia Regional Office and the WHO Country Office for India. Technical team members from WHO who were part of this effort and whose active contributions we wish to acknowledge include - Dr. Manju Rani, Ms. Vineet Gill Munish, Dr. D.N. Sinha, Mr. Naveen Agarwal and Mr. Praveen Sinha.

We also sincerely record our appreciation of the immense help and guidance received at different stages of the work from the team in CDC Atlanta, led by Dr. Krishna Mohan Palipudi and Dr. Indu Ahluwalia; from RTI International for their support in data management; and from Ms. Rachna Chandora of CDC Foundation for her valuable inputs.

Our special thanks to all the members of the Technical Advisory and Monitoring Committee (TAMC), the Sample Review Committee (SRC), the Questionnaire Review Committee (QRC), and the technical review committee of the full and final report. In particular we wish to acknowledge Dr. P.C. Gupta and his support for development of the questionnaire, Mr. Aritra Bhattacharya for language copy editing and Dr. Monika Arora and her PHFI team for technical copy editing of the full report.

This acknowledgement also places on record our special thanks to the ten research agencies and their field investigators and supervisors who helped in collecting and transferring data to the TISS. Our special thanks also go to Giri Institute of Development Studies Lucknow, for hosting and supporting the elaborate pre-testing of the questionnaire.

Back at home, this massive effort would not have been possible without the unstinting support and leadership of the dynamic director of TISS, Prof. S Parasuraman, who was also the project director for this survey. We must also place on record the multi-faceted expertise and immense work of our technical coordinator Prof. Sulabha Parasuraman. She is also the main contributing author of



the report. A special thanks is due to Mr. V Sivakumar for heading the data management team and implementing the data collection model on the field. We also acknowledge the faculty members of the School of Health Systems Studies at TISS – Dr. Nilesh Gawde, Prof. M. Sivakami, Dr. Hemal Shroff, Dr. M. Gowri, Dr. Priyanka Dixit and the research scholar Mr. Alok Ranjan and research associate Dr. Amrita Gupta. They contributed towards pre-testing, training, survey supervision and also to writing up the final report. The contribution of the data analysis and data management teams of the project at TISS and the accounts and administrative support are also gratefully acknowledged. Last, but not the least, we thank all the respondents who participated in the survey for their patience and cooperation.

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# EXECUTIVE SUMMARY



## INTRODUCTION

Tobacco use is the leading single preventable cause of deaths worldwide. Each year an estimated seven million deaths are attributed to the use of tobacco<sup>(1)</sup>. On an average, tobacco users lose 15 years of life. Up to half of all tobacco users will die prematurely due to tobacco related causes by any year or time estimation. Most of these deaths will be in middle and low-income nations, which would account for almost 80 percent of all tobacco related deaths<sup>(2)</sup>. The economic costs of tobacco use are enormous, totaling more than US\$ 1.4 trillion in health care costs and resulting in lost productivity which is about 1.8 percent of the world's GDP and over 40 percent of what the world spends on school education<sup>(3)</sup>. Yet tobacco remains the single most widely available and purchasable addictive substance whose purchase is legal everywhere.

The Framework Convention on Tobacco Control (FCTC) is the most important global initiative for tobacco control. One key strategy to implement FCTC is MPOWER, a technical assistance package developed by WHO that consists of six evidence-based tobacco demand reduction measures contained in the FCTC that includes:



- M**onitor tobacco use & prevention policies
- P**rotect people from tobacco smoke
- O**ffer help to quit tobacco use
- W**arn about the dangers of tobacco
- E**nforce bans on tobacco advertising, promotion & sponsorship
- R**aise taxes on tobacco

In the decade since the WHO introduced MPOWER and the monitoring of its progress began, there have been substantial advances in the adoption of strong tobacco control policies in all regions of the world and among countries of all income levels. Such achievements in a relatively short time have been impressive – nearly two thirds of the world's people (4.7 billion) are now protected by at least one best-practice tobacco control measure, 3.6 billion more people than were similarly covered just a decade ago. However, 2.7 billion people still have no protection from the illness, disability and death caused by tobacco use and second hand smoke exposure, or from associated economic, environmental and social harms<sup>(4)</sup>.

India is the third largest tobacco producing nation and second largest consumer of tobacco world-wide. Mortality due to tobacco in India is estimated at upwards of 1.3 million<sup>(5,6)</sup>. Out of these, one million are attributed to tobacco smoking and the rest to smokeless tobacco use. One feature of tobacco related mortality in India is the high incidence of oral cancer, exceeding even that of lung cancer and accounting for almost half of all oral cancers in the world<sup>(7)</sup>.

India has the highest burden of both tuberculosis (TB) and Multi-Drug Resistant (MDR) TB based on estimates reported in Global TB Report 2016<sup>(8)</sup>. Smoking increases the risk of TB by more than two-and-a-half times<sup>(9)</sup>. Smoking is also contributing in a major way to India's increasing burden of non-communicable



diseases. If current trends continue tobacco will account for 13 percent of all deaths in India by 2020<sup>(10)</sup>.

The Government of India has taken note of the tobacco epidemic and has responded by initiating several measures to contain the same. The Government's regulatory action towards tobacco control began in 2003 with the enactment of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA). India has been one of the earliest nations to ratify the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2004. In 2007-08 India launched its National Tobacco Control Program. By legal provision smoking is completely banned in most public places and workplaces. All forms of tobacco advertising, promotion and sponsorship are prohibited. It is mandatory to have pictorial and text health warning labels on the tobacco product packages. On October 15, 2014, the government notified new larger warnings that increased the warning size from 40 percent of one side of tobacco product packaging to 85 percent of both front and back panels of tobacco packaging.

Recognizing the importance of high quality information on tobacco use to guide its tobacco control policy and programs, the Government of India has also been in the forefront to undertake the global tobacco surveys. These surveys are part of the Global Tobacco Surveillance System (GTSS). So far, three rounds of Global Youth Tobacco Survey (2003, 2006 and 2009) and one round of Global School Health Survey (2007) have been completed. The major instrument for monitoring adult tobacco use and tracking key tobacco control indicators is the Global Adult Tobacco Survey (GATS). The first round of GATS was implemented in 2009-10 (GATS 1) and the second round was implemented in 2016-17 (GATS 2).

Ministry of Health and Family Welfare, Government of India designated Tata Institute

of Social Sciences, Mumbai as an Implementing agency for carrying out the GATS 2. The technical assistance for GATS 2 was provided by the U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), the Johns Hopkins Bloomberg School of Public Health, and RTI International.

## METHODOLOGY

Global Adult Tobacco Survey 2 (GATS 2) was a household survey of persons aged 15 years or older. GATS 2 was carried out in all the 30 states of India and in the two Union Territories (UTs) of Chandigarh and Puducherry. A multi-stage, geographically clustered sample design was used to produce data representative of each state and UT. One individual was randomly chosen from each selected household to participate in the survey. The survey was designed to produce internationally comparable data on tobacco use and other tobacco control indicators using a standardized questionnaire, sample design, data collection and management procedures. The GATS 2 data collection was carried out during August 2016-February 2017. The analysis of GATS 2 is based on a total of 74,037 completed interviews among which 33,772 were with men and 40,265 were with women. Out of all completed interviews, 47,549 interviews were conducted in rural areas and 26,488 interviews in urban areas. The household response rate and person-level response rate were 96.7 percent and 96.0 percent respectively and the overall response rate was 92.9 percent.

GATS provides information on respondents' background characteristics, tobacco use (smoking and smokeless), cessation, second hand smoke exposure, economics, media, and knowledge, attitudes and perceptions towards tobacco use. GATS enhances countries' capacity to design, implement and evaluate tobacco control policies and programs. It also assists countries to fulfill their obligations under the WHO FCTC to generate comparable data within and across countries.

## SALIENT FINDINGS

### Prevalence of tobacco use

- ❖ GATS 2 revealed that 28.6 percent (266.8 million) of adults in India, aged 15 and above currently use tobacco in some form. Among the adults 24.9 percent (232.4 million) are daily tobacco users and 3.7 percent (34.4 million) are occasional users.
- ❖ The prevalence of current tobacco use among men was 42.4 percent and among women it was 14.2 percent. Every third adult (32.5%) from rural areas and every fifth adult (21.2%) from urban area reported current use of tobacco.
- ❖ The prevalence of tobacco use varied across the states/UTs from 64.5 percent in Tripura to 9.7 percent in Goa.
- ❖ GATS 2 shows that *khaini* - a tobacco, lime mixture- is the most commonly used tobacco product in India and this is used by every ninth adult (11.2%). The next most commonly used tobacco product is *bidi*, smoked by 7.7 percent of adult Indians. In use, *gutka* - a tobacco, lime, areca nut mixture- ranks the third (6.8%) and betel quid with tobacco ranks the fourth (5.8%).
- ❖ Among men *khaini* (17.9%) and *bidi* (14.0%) were the most commonly used tobacco products whereas among women, the three smokeless tobacco products i.e., betel quid with tobacco (4.5%), *khaini* (4.2%) and oral application products (4.3%) such as *mishri*, *gul*, *gudakhu* are almost equally used products.
- ❖ In urban areas, *khaini* (6.8%) and *gutka* (6.3%) are the two most commonly used tobacco products; whereas in rural areas *khaini* (13.5%) and *bidi* (9.3%) are the most prevalent tobacco products.
- ❖ One in eight (12.2%) daily tobacco user aged 20-34 had started smoking

before age 15 years, while more than one-third (35.8%) of all daily smokers have started smoking when they were younger than 18 years.

- ❖ The majority (58.5%) of the daily tobacco users make their first use of tobacco within 30 minutes of waking up in the morning.
- ❖ From GATS 1 in 2009-10 to GATS 2 in 2016-17 the prevalence of any form of tobacco use has decreased significantly by six percentage points from 34.6 percent to 28.6 percent. The relative decrease in the prevalence of tobacco use is 17.3 percent.
- ❖ From GATS 1 to GATS 2, the prevalence of daily tobacco use has decreased by 4.2 percentage points (relative decrease of 14.4%) and the prevalence of occasional tobacco use has decreased by 1.7 percentage points (relative decrease of 31.5%).The decrease in both is statistically significant.
- ❖ There is a significant increase of one year in the mean age at initiation of tobacco use from 17.9 years in GATS 1 to 18.9 years in GATS 2.

### Prevalence of smoking tobacco

- ❖ Every tenth adult (10.7%; 99.5 million) in India currently smokes tobacco.
- ❖ The prevalence of smoking among men was 19.0 percent and among women it was 2.0 percent. The prevalence of smoking was 11.9 percent in rural areas and 8.3 percent in urban areas.
- ❖ The prevalence of smoking across the states ranged from 34.4 percent in Mizoram to 3.8 percent in Maharashtra.
- ❖ The mean number of cigarettes smoked per day by a daily cigarette smoker was 6.8 and the mean number of *bidis* smoked per day by a daily *bidi* smoker was 15.1.

- ❖ One in 10 (10.6%) daily smokers aged 20-34 had started smoking before age 15 years, while 33.1 percent of all daily smokers have started smoking when they were younger than 18 years.
- ❖ The mean age at initiation of daily smoking for daily smokers aged between 20 and 34 years is 18.9 years.
- ❖ 1.8 percent of all the adults were former daily smokers but currently have stopped smoking completely. The quit ratio of smoking defined as percentage of current non-smokers who were former daily smokers, among ever daily smokers is 16.8 percent.
- ❖ The prevalence of smoking has decreased by 3.3 percentage points (relative reduction of 23.6%) from 14.0 percent in GATS 1 to 10.7 percent in GATS 2. The reduction in the prevalence of smoking is statistically significant.
- ❖ From GATS 1 to GATS 2, the prevalence of all the different smoking tobacco products has decreased. The magnitude of decrease in the prevalence of cigarette (1.7 percentage points), *bidi* (1.5 percentage points), cigar (0.3 percentage points) and *hukkah* (0.2 percentage points) though of varying order, are all statistically significant.
- ❖ 12.1 percent of daily users of smokeless tobacco aged 20-34 had started using smokeless tobacco when they were younger than age 15 and 36.2 percent of daily smokeless tobacco users aged 20-34 had started smoking or smokeless tobacco use when they were minors i.e., younger than 18 years.
- ❖ The mean age at initiation of daily use of smokeless tobacco for daily users of smokeless tobacco aged between 20 and 34 years was 18.8 years.
- ❖ 1.2 percent of all the adults were former daily users of smokeless tobacco, who have currently stopped smokeless tobacco use completely. The quit ratio of smokeless tobacco use defined as percentage of current non-users of smokeless tobacco but former daily users, among ever daily users of smokeless tobacco, is 5.8 percent.
- ❖ The prevalence of smokeless tobacco use has decreased by 4.5 percentage points (relative reduction of 17.4%), from 25.9 percent in GATS 1 to 21.4 percent in GATS 2. The reduction of 4.5 percentage points in the prevalence of smokeless tobacco use is statistically significant.
- ❖ Similar to the smoking tobacco products, there has been decrease in the prevalence of all the smokeless tobacco products, i.e., betel quid with tobacco (0.4 percentage points), *khaini* (0.4 percentage points), *gutka* (1.4 percentage points) and tobacco for oral application (0.9 percentage points). The decrease in the prevalence of all the smokeless tobacco products, though of varying order, is statistically significant.

## Prevalence of smokeless tobacco

- ❖ Every fifth adult Indian (21.4%; 199.4 million) currently uses smokeless tobacco.
- ❖ The prevalence of smokeless tobacco use among men and women was 29.6 percent and 12.8 percent respectively. The current use of smokeless tobacco among adults was 24.6 percent in rural and 15.2 percent in urban areas.
- ❖ The variation in the prevalence of smokeless tobacco use across the states/UTs was from 48.5 percent in Tripura to 3.1 percent in Himachal Pradesh.

## Cessation

### Smoking tobacco

- ❖ Nearly two in five (38.5%) of smokers made an attempt to quit smoking.

- ❖ A small proportion of smokers who made a quit attempt in the past 12 months used either pharmacotherapy including nicotine replacement therapy or use of prescription medicine (4.1%) or counseling/ advice that includes cessation clinic and a telephone Quitline/help line (8.6%); 4.1 percent of smokers tried to quit smoking by switching to smokeless tobacco use. Most of the smokers (71.7%) who made an attempt to quit smoking in the past 12 months period prior to the survey tried to quit without assistance of any formal method of quitting.
- ❖ All those who made a quit attempt in the past 12 months' period prior to the survey were not successful in quitting. Almost half of the cigarette smokers (47.4%) and *bidi* smokers (48.7%) who made a quit attempt in the past 12 months were able to maintain a quit status for less than a month.
- ❖ GATS 2 shows that 54.5 percent of the smokers, who visited health care provider in the past 12 months, were asked by the provider whether they smoke and 48.8 percent (89.7% of those who were asked by health care provider) were advised to stop smoking.
- ❖ Majority of the smokers (55.4%) are interested or planning to quit smoking.
- ❖ The proportion of smokers who made an attempt to quit smoking in 12 months prior to survey has remained almost unchanged from GATS 1 (38.4%) to GATS 2 (38.5%).
- ❖ From GATS 1 to GATS 2 there was a significant increase in the proportion of smokers, who visited health care provider in the past 12 months, and were advised by a health care provider (46.3% in GATS 1 to 48.8% in GATS 2) to quit smoking.
- ❖ From GATS 1 to GATS 2 the proportion of smokers who are interested or planning to quit smoking has increased significantly

from 46.6 percent in GATS 1 to 55.4 percent in GATS 2.

## Smokeless tobacco

- ❖ One-third (33.2%) of users of smokeless tobacco made an attempt to quit use of smokeless tobacco in the past 12 months.
- ❖ Only a small proportion of smokeless tobacco users who made a quit attempt in the past 12 months used either pharmacotherapy including nicotine replacement therapy or use of prescription medicine (3.2%) or counseling/ advice that includes cessation clinic and a telephone Quitline/help line (7.3%). Most of the smokeless tobacco users (74.9%) who made a quit attempt in the past 12 months period prior to the survey tried to quit use of smokeless tobacco without assistance of any formal method of quitting.
- ❖ About half (49.5%) of the smokeless tobacco users who made a quit attempt in the past 12 months' period prior to the survey, could stop smokeless tobacco use for less than a month.
- ❖ More than one-third (37.4%) of smokeless tobacco users who visited health care provider were asked by the provider whether they use smokeless tobacco and 31.7 percent (84.9% of those who were asked) was advised to stop smokeless tobacco use.
- ❖ About half (49.7%) of the smokeless tobacco users are interested or planning to quit smokeless tobacco use.
- ❖ The proportion of smokeless tobacco users who made an attempt to quit tobacco use in 12 months prior to survey has decreased significantly from 35.4 percent in GATS 1 to 33.2 percent in GATS 2.
- ❖ From GATS 1 to GATS 2 there is a significant increase in the proportion of smokeless

tobacco users, who visited health care provider in the past 12 months, and were advised by a health care provider (26.7% in GATS 1 to 31.7% in GATS 2) to quit use of smokeless tobacco.

- ❖ From GATS 1 to GATS 2 the proportion of smokeless tobacco users who are interested or planning to quit smokeless tobacco use has increased significantly from 45.2 percent in GATS 1 to 49.7 percent in GATS 2.

## Exposure to Second Hand Smoke

- ❖ GATS 2 shows that in almost half (48.8%) of the households smoking was allowed inside the house. In 38.2 percent of the households from urban areas and in 54.4 percent of the households in rural areas smoking was allowed inside the house. Little more than one-third (35.0%) of the non-smokers were exposed to second hand smoke (SHS) at home. In urban areas 25.0 percent of non-smokers and in rural areas 40.4 percent of non-smokers were exposed to SHS at home respectively.
- ❖ Among the persons who work indoors, 26.2 percent of non-smokers were exposed to second hand smoke at the work-place in past 30 days. Little less than one-fourth (22.7%) of non-smokers from urban areas and three in ten (29.4%) of the non-smokers from rural areas were exposed to second hand smoke at work place.
- ❖ Among all adults, 5.3 percent were exposed to second hand smoke in Government buildings, 3.6 percent in private workplace, 5.6 percent in health care facility, 7.4 percent in restaurant, 13.3 percent in public transport, 2.1 percent in bar/ night club and 2.2 percent in cinema hall. In all 25.7 percent of adults were exposed to second hand smoke in any of these seven public places.

- ❖ Since GATS 1, there has been a significant reduction in the proportion of households in which smoking is allowed. The proportion of households in which smoking is allowed has decreased significantly from 60.4 percent in GATS 1 to 48.8 percent in GATS 2; the proportion of non-smokers exposed to SHS at home has decreased significantly from 48.0 percent in GATS 1 to 35.0 percent in GATS 2.
- ❖ Among the non-smokers who work indoors the proportion exposed to SHS at the work place has increased marginally (but not significantly) from 26.1 percent in GATS 1 to 26.2 percent in GATS 2.
- ❖ Among all the adults, an exposure to SHS at government building/ office has decreased significantly from 6.6 percent in GATS 1 to 5.3 percent in GATS 2; at restaurant it has decreased significantly from 11.3 percent in GATS 1 to 7.4 percent in GATS 2; and in public transport an exposure to SHS has decreased significantly from 17.5 percent in GATS 1 to 13.3 percent in GATS 2. The exposure to SHS at health care facility has increased from 5.4 percent in GATS 1 to 5.6 percent in GATS 2. However this increase is not statistically significant.

## Economics

- ❖ Two-thirds of cigarette smokers and one-sixth of *bidi* smokers bought loose cigarettes and *bidis* respectively.
- ❖ Among the minor respondents aged 15-17, 98 percent reported buying cigarettes and 76 percent reported buying *bidi* from either store or kiosks.
- ❖ A daily cigarette smoker spent on an average Rs. 1192.45 per month and daily *bidi* smokers spent on an average Rs. 284.12 per month on *bidis*.



- ❖ Among daily cigarette smokers, average cigarette expenditure per month has increased significantly from Rs. 668.04 in GATS 1 to Rs. 1192.45 in GATS 2, after adjusting for inflation.
- ❖ Among daily *bidi* smokers, average *bidi* expenditure per month has increased significantly from Rs. 156.3 in GATS 1 to Rs. 284.12 in GATS 2, after adjusting for inflation.
- ❖ One-fourth of the smokeless tobacco users bought loose smokeless tobacco products.
- ❖ Among the minor respondents aged 15-17, a large proportion (89%) reported buying smokeless tobacco from either store or kiosks.

## Media

### Advertisements Promoting Tobacco use

- ❖ Among all adults, 19.2 percent noticed an advertisement promoting use of smoking tobacco and 18.3 percent noticed an advertisement of smokeless tobacco.
- ❖ Among all the adults 5.3 percent noticed cigarette promotion, 5.4 percent noticed *bidi* promotion and 5.7 percent noticed promotion of smokeless tobacco.

### Advertisements with Anti-tobacco messages

- ❖ More than three-fourths (76.0%) of all adults noticed anti-smoking information on any media/location. The highest proportion (66.9%) of adults noticed anti-smoking information on television.
- ❖ Among all adults 67.3 percent noticed anti-smokeless tobacco information on any media/location. The highest proportion (58.4%) of adults noticed anti-smokeless tobacco information on television.

- ❖ Among the current cigarette smokers 83.0 percent noticed health warning on cigarette packets. 78.4 percent of *bidi* smokers noticed health warning on *bidi* packets, and 71.6 percent of smokeless tobacco users noticed health warning on the smokeless tobacco packets. Majority of cigarette (61.9%) and *bidi* (53.8%) smokers who noticed health warnings on packages thought of quitting smoking; and 46.2 percent of smokeless tobacco users thought of quitting tobacco use because of warning label on the package of smokeless tobacco product.

## Knowledge, Attitude and Perception

- ❖ Among all adults, 92.4 percent believed that smoking causes serious illness. Majority of the adults believed that smoking causes stroke (65.8%), heart attack (76.7%), lung cancer (93.5%) and tuberculosis (92.3%).
- ❖ 92.4 percent believed that breathing other people's smoke causes serious illness in non-smokers and 93.3 percent believed that breathing other people's smoke causes serious illness in children.
- ❖ 95.6 percent of the adults believed that use of smokeless tobacco causes serious illness and 87.9 percent of the adults believed that use of smokeless tobacco during pregnancy harms the fetus.
- ❖ About one-fifth (18.6%) of the smokers perceived that smoking has definitely harmed their body and additional one third (30.7%) perceived that smoking has probably harmed their body. Almost half (47.9%) of the smokers reported that smoking has not harmed their body.
- ❖ 35.1 percent of the smokeless tobacco users perceived that tobacco use has either definitely harmed their body (12.8%) or probably harmed their body (22.3%). In the perception of the majority (62.2%), however, the use of smokeless tobacco had not harmed their body.



## CONCLUSIONS

Between 2009 and 2016, India has made progress in reducing the prevalence of use of both smoked and smokeless forms of tobacco. There is significant reduction in prevalence even when disaggregated for gender, urban or rural residence, age or forms of tobacco use. Exposure to second hand smoking too has declined at home and at all public places, except at the work-place, where it is stagnated. Promotion of tobacco use has declined, and anti-tobacco messages on tobacco packs are more visible, prompting more tobacco users to think of quitting. Efforts to quit tobacco use have increased, but successful quitting remains low.

However, large scale variations are noticed across different states as evident in the full report. While some States have been successful in achieving decline in tobacco use prevalence, others need to undertake more concerted efforts for effective tobacco control. The current levels of tobacco use are still very high across the nation which calls for sustained efforts at all levels and multi-sectorial coordination to bring down tobacco use across all sections of the population. The strict enforcement of COTPA 2003, enhanced implementation of National Tobacco Control Programme and WHO FCTC will definitely lead to acceleration of existing efforts for prevention and control of tobacco and achievement of the global targets in a timely manner.

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## MPOWER SUMMARY INDICATORS, GATS INDIA, 2009-10 AND 2016-17

Indicator	2009-10			2016-17			Relative change		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
<b>M: Monitor tobacco use and prevention policies</b>									
Current tobacco users	34.6	47.9	20.3	28.6	42.4	14.2	-17.3**	-11.5**	-30.0**
Current tobacco smokers	14.0	24.3	2.9	10.7	19.0	2.0	-23.6**	-21.8**	-31.0**
Current cigarette smokers <sup>1</sup>	5.7	10.3	0.8	4.0	7.3	0.6	-29.8**	-29.1**	-25.0**
Current <i>bidi</i> smokers	9.2	16.0	1.9	7.7	14.0	1.2	-16.3**	-12.5**	-36.8**
Current smokeless tobacco users	25.9	32.9	18.4	21.4	29.6	12.8	-17.4**	-10.0**	-30.4**
Current 'betel quid with tobacco' users	6.2	7.5	4.9	5.8	7.1	4.5	-6.5**	-5.3*	-8.2**
Current <i>khaini</i> users	11.6	18.0	4.7	11.2	17.9	4.2	-3.4*	-0.6	-10.6**
Current <i>gutka</i> users	8.2	13.1	2.9	6.8	10.8	2.7	-17.1**	-17.6**	-6.9
Current 'oral tobacco application' users	4.7	3.3	6.3	3.8	3.3	4.3	-19.1**	-0.0	-31.7**
Former daily smokers <sup>2</sup> (among ever daily smokers)	12.6	12.1	16.2	16.8	16.8	17.6	33.6**	38.4**	8.6
Former daily smokeless tobacco users <sup>3</sup> (among ever daily smokeless tobacco users)	4.8	4.6	5.2	5.8	5.2	7.0	19.9**	13.6	34.3**
Average age at initiation of daily smoking (among daily smokers aged 20-34)	17.9	18.1	14.7	18.9	18.8	21.2	5.6**	3.9*	44.2**
Average age at initiation of daily smokeless tobacco use (among daily smokeless tobacco users aged 20-34)	17.9	18.2	17.1	18.8	18.7	19.2	5.0**	2.7*	12.3**
<b>P: Protect people from tobacco smoke</b>									
Exposure to second hand smoke at home <sup>4</sup>	52.3	52.2	52.5	38.7	38.1	39.3	-26.0**	-27.0**	-25.1**
Exposure to second hand smoke at workplace <sup>5,1</sup>	29.9	32.2	19.4	30.2	32.7	17.9	1.0	1.6	-7.7
Exposure to second hand smoke at public place									
Government office/building <sup>1</sup>	6.6	10.3	2.6	5.3	8.1	2.4	-19.7**	-21.4**	-7.7**
Restaurant <sup>1</sup>	11.3	19.2	2.8	7.4	13.0	1.6	-34.5**	-32.3**	-42.9
Health care facility <sup>1</sup>	5.4	6.0	4.8	5.6	6.8	4.4	3.7**	13.3**	-8.3**
Public transportation <sup>1</sup>	17.5	22.0	12.6	13.3	16.6	9.9	-24.0	-24.5**	-21.4**
Exposure to second hand smoke at any of the above four public places <sup>1</sup>	29.0	39.5	17.8	23.0	31.0	14.7	-20.6**	-21.5**	-17.4**

Indicator	2009-10			2016-17			Relative change		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
<b>O: Offer help to quit tobacco use</b>									
Current smokers who planned to or thought about quitting smoking	46.6	47.3	40.6	55.4	56.3	46.4	18.9**	19.0**	14.3**
Smokers made a quit attempt in past 12 months <sup>6</sup>	38.4	38.3	38.9	38.5	38.8	35.5	0.3	1.3	-8.7
Smokers advised by healthcare provider to quit smoking <sup>6,7</sup>	46.3	47.3	38.9	48.8	50.3	36.6	5.4*	6.3**	-5.9
Current smokeless tobacco users who planned to or thought about quitting smokeless tobacco use	45.2	48.3	39.1	49.6	52.7	42.2	9.7**	9.1**	7.9**
Smokeless tobacco users made quit attempt in past 12 months <sup>8</sup>	35.4	38.8	29.0	33.2	35.2	28.4	-6.2**	-9.3**	-2.1
Smokeless tobacco users advised by healthcare provider to quit use of smokeless tobacco <sup>7,8</sup>	26.7	28.1	24.5	31.7	33.3	28.6	18.7**	18.5**	16.7**
<b>W: Warn about the dangers of tobacco</b>									
Thinking of quitting because of health warning on cigarette packages <sup>†</sup>	38.0	40.2	9.5	61.9	64.6	26.7	62.9**	60.7**	181.1**
Thinking of quitting because of health warning on <i>bidī</i> packages <sup>†</sup>	29.3	30.9	13.7	53.8	55.8	28.6	83.6**	80.6**	108.8**
Thinking of quitting because of health warning on smokeless tobacco packages <sup>†</sup>	33.8	41.4	19.4	46.2	52.9	29.9	36.7**	27.8**	54.1**
Adults who believed smoking causes serious illness	90.2	91.5	88.8	92.4	92.8	92.0	2.4**	1.4**	3.6**
Adults who believe second hand smoke causes serious illness in non-smokers	82.9	84.9	80.8	92.4	94.0	90.8	11.5**	10.7**	12.4**
Adults who believe use of smokeless tobacco causes serious illness	88.8	90.1	87.3	95.6	96.4	94.8	7.7**	7.0**	8.6**
<b>E: Enforce bans on tobacco advertising, promotion and sponsorship</b>									
Adults who noticed any type of cigarette promotion <sup>9,†</sup>	7.4	9.9	4.6	5.3	6.9	3.6	-28.4**	-30.3**	-21.7**
Adults who noticed any type of <i>bidī</i> promotion <sup>9,†</sup>	6.8	88.0	4.6	5.4	7.3	3.4	-20.6**	-91.7**	-26.1**
Adults who noticed any type of smokeless tobacco promotion <sup>9,†</sup>	8.8	11.5	5.9	5.7	7.8	3.5	-35.2**	-32.2**	-40.7**

Indicator	2009-10			2016-17			Relative change		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
Adults who noticed smokeless tobacco advertisement <sup>1</sup>	49.6	53.6	43.5	18.3	22.4	14.1	-63.1**	-58.2**	-67.6**
Adults who noticed smokeless tobacco advertisement or promotion <sup>9,†</sup>	54.7	58.6	48.7	20.5	25.2	15.6	-62.5**	-57.0**	-68.0**
<b>R: Raise taxes on tobacco<sup>^</sup></b>									
Average monthly expenditure on cigarette (for daily cigarette smokers) (in Rs)	609.9	613.7	271.7	1192.5	1195.5	731.7	95.5**	94.8**	169.3
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	142.7	148.2	75.6	284.1	294.7	138.3	99.1**	98.9**	82.9**

<sup>1</sup> Includes manufactured cigarettes and hand-rolled cigarettes. <sup>2</sup> Current non-smokers. <sup>3</sup> Current non-users. <sup>4</sup> Among all adults exposed at any time. <sup>5</sup> Among those who work outside of the home who usually work indoors or both indoors. <sup>6</sup> Includes current smokers and those who quit in the past 12 months. <sup>7</sup> Among those who visited a health care provider in the past 12 months. <sup>8</sup> Includes current smokeless users and those who quit in the past 12 months. <sup>9</sup> Includes products at sale prices, free samples, free gifts or discount offers on other products when buying tobacco products, clothing or other items with brand name or logo of the product, promotion in mail and surrogate advertisement. <sup>†</sup> During the past 30 days. GATS India 2009-10 cost data was adjusted for inflation. \*p<0.05, \*\*p<0.01.

The relative change (R) of the two estimates in the survey years 2009-10 (r2009-10) and 2016-17 (r2016-17) is calculated by  $R = (r2009-10 - r2016-17) / r2009-10$ , as a percentage. The relative changes are calculated using un-rounded prevalence estimates and might be different if calculated using rounded prevalence estimates shown in this table.

**Note:** Results for prevalence estimates and average are rounded to the nearest tenth (0.1).

**Note:** Current use refers to daily and less than daily use. Adults refer to persons aged 15 years or older. Data have been weighted to be nationally representative of all non-institutionalized men and women aged 15 years or older. Percentages reflect the prevalence of each indicator in each group, not the distribution across groups.



## CHAPTER 1

# INTRODUCTION



### 1.1 THREAT FROM TOBACCO USE

Use of tobacco constitutes the single largest source of preventable deaths worldwide, accounting for over 7 million deaths on a yearly basis<sup>(1)</sup>. On an average, those who consume tobacco lose around 15 years of their life. Up to half of all tobacco users die prematurely due to tobacco related causes by any year or time estimation. Most of these deaths are in middle and low-income nations, which account for almost 80 percent of all tobacco related deaths<sup>(2)</sup>.

The economic impact of tobacco consumption is enormous, totalling more than US\$ 1.4 trillion in health care costs; 1.8 percent of the world's GDP in terms of lost productivity; and over 40 percent of what the world spends on school education<sup>(3)</sup>. Yet, tobacco remains the most widely available and legally purchasable addictive substance.

The scenario around tobacco use in India is even more of a challenge. India is the third largest tobacco producer and second largest consumer of tobacco worldwide. Mortality due to tobacco use in India is estimated at upwards of 1.3 million<sup>(4,5)</sup>.

The link between tobacco use and mortality in India is well established, and resonates with global experience regarding tobacco use. A striking feature in India though is the higher incidence of oral cancer, as opposed to lung cancer, among tobacco users. In fact, India alone accounts for almost half of all oral cancer cases in the world<sup>(6)</sup>. The link between

Tuberculosis-related mortality and smoking is also well-established. Smoking increases the risk of TB disease by more than two-and-a-half times<sup>(7)</sup>.

All this makes it imperative to accelerate efforts for tobacco control at the global as well as national levels. Efforts, as such, must be focussed on effectively curbing the greatest public health challenge the world is currently facing.

### 1.2 GLOBAL ACTION AGAINST TOBACCO

International recognition of the threat posed by tobacco use has been growing, and the potential of concerted global action to contain this epidemic is immense. Tobacco control is already part of the United Nations Agenda on Sustainable Development Goals (SDGs), included in the third goal on good health and well-being. Curbing the use of tobacco is seen as an effective means to achieve the SDG target that calls for bringing down premature mortality, deaths due to non-communicable diseases (NCDs) by one-third; the list of such diseases includes cardiovascular diseases, cancers and chronic obstructive pulmonary disease.

The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC), and the target for strengthening its implementation, is also a key part of concerted global action against tobacco<sup>(8)</sup>. The framework provides a strong, multi-layered response to the global tobacco epidemic and its enormous health, social, environmental and economic costs. It also gives countries the necessary



foundation and framework – both legal and technical – to enact comprehensive and effective tobacco control measures spanning all sectors of government. With over 180 members, the WHO FCTC covers more than 90 percent of the world's population<sup>(9)</sup>.

The FCTC has put in place regulatory measures, price and tax restrictions, product packaging, education, and elimination of tobacco advertising in order to reduce the demand for tobacco. Around 181 countries are Parties to this Convention<sup>(10)</sup>.

The WHO MPOWER approach, the global strategy for tobacco control, was drawn up in 2008. It delineates the following six tobacco control actions that must be taken by governments:

- ❖ Monitor tobacco use and prevention policies.
- ❖ Protect people from tobacco smoke.
- ❖ Offer help to quit tobacco use.
- ❖ Warn people about the dangers of tobacco use.
- ❖ Enforce bans on tobacco advertising, promotion and sponsorship.
- ❖ Raise taxes on tobacco.

The WHO FCTC performs the key function of monitoring the prevalence of tobacco use as well as progress on tobacco control using WHO MPOWER strategies worldwide. The Global Tobacco Surveillance System was established to expressly focus on such monitoring.

### **1.3 GLOBAL TOBACCO SURVEILLANCE SYSTEM**

Under the leadership of the World Health Organization (WHO), a Global Tobacco Surveillance System (GTSS) was established to assist all 192 WHO Member States in collecting data on youth and adult tobacco use. The Global Adult Tobacco Survey (GATS) is the global

standard for systematically monitoring tobacco use (smoking and smokeless) and keeping track of all key tobacco control indicators. GATS is a household survey that monitors tobacco use among adults aged 15 or above. It has been implemented in 33 countries since 2008, and 11 countries have conducted more than one such survey<sup>(11)</sup>.

The Global Youth Tobacco Survey (GYTS), focused on 13-15 year olds and conducted in schools, complements GATS. GYTS has been implemented in 173 countries since 1999 and has been repeated at least once in 106 countries. It also generates comparable data within and across countries because of the process all countries follow is standardized, systematic and consistent.

In addition, there is the Tobacco Questions for Surveys (TQS) Guide, which provides a subset of 22 core standardized questions on tobacco use and key tobacco control measures. These questions can be incorporated into national surveys, as has been done in 73 countries<sup>(12)</sup>.

India has been at the forefront in implementation of the WHO FCTC and tobacco control surveillance activities in line with the GTSS.

### **1.4 TOBACCO CONTROL POLICIES IN INDIA**

India was one of the first nations to ratify the WHO FCTC in 2004. The Government of India's legislative initiatives for tobacco control pre-date this milestone. The legislative action for tobacco control began in 2003 with the enactment of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA). The law sought to discourage the consumption of cigarettes and other tobacco products.

Government of India launched the National Tobacco Control Programme (NTCP) in the year 2007-08, with the aim to: (i) create awareness about the harmful effects of tobacco

consumption, (ii) reduce the production and supply of tobacco products, (iii) ensure effective implementation of the provisions under COTPA (iv) help people quit tobacco use, and (v) facilitate implementation of strategies for prevention and control of tobacco advocated by WHO Framework Convention on Tobacco Control<sup>(13)</sup>.

The NTCP is being implemented through a three-tiered structure, i.e. (i) National Tobacco Control Cell (ii) State Tobacco Control Cell and (iii) District Tobacco Control Cell [subsumed in the flexipool for Non Communicable Diseases (NCDs) under the National Health Mission (NHM)]. The main activities at state and district level include training and capacity building of enforcement officials, better monitoring and implementation of tobacco control laws, health communication efforts within schools and among the general public to promote awareness of the dangers/hazards of tobacco use and prevention tobacco use. Apart from these initiatives, the NTCP also provides for setting up of cessation centres at the district level and establishment of tobacco product testing laboratories.

Since India is the third largest tobacco producing country in the world, there is a need to address occupational health hazards faced by the tobacco farmers and workers, including *bidi* rollers, mostly women.

India was one of the first countries to undertake the Tobacco Control Surveillance in a structured manner, having recognised the importance of high quality information on tobacco use and its role in guiding the country's tobacco control policy and programmes. The Global Youth Tobacco Survey was first conducted in 2003; the same was repeated in 2006 and 2009. The first round of Global Adult Tobacco Survey was undertaken in 2009-2010. India also conducted a school personnel survey and a dental student survey in 2006.

At this time, in 2009, the NTCP was still at an early stage of implementation. The GYTS 3 and GATS 1 provided a convenient baseline for the NTCP. Questions on tobacco use have

also been included in major national surveys from time to time, notably in the National Family Health Surveys 2, 3 and 4 as well as three rounds of the Annual Health Surveys. Each of these has added to the pool of data on tobacco use and control.

However, despite the multiple sources of information, it is the Global Adult Tobacco Survey that provides the baseline information on multiple forms of tobacco use, varying epidemiology across states, diverse determinants of its prevalence and efforts at tobacco control.

## 1.5 GLOBAL ADULT TOBACCO SURVEY- FIRST ROUND- 2009-10 INDIA

The first round of Global Adult Tobacco Survey, India (GATS 1) was carried out in 2009-2010<sup>(14)</sup>. The Ministry of Health and Family Welfare, Government of India conducted this survey with International Institute for Population Sciences as the lead implementing agency; World Health Organization, Centers for Disease Control and Prevention (CDC), USA were among the key collaborators. A nationally representative probability sample was used to provide national and regional (North, West, East, South, Central and North-East) estimates by residence (urban and rural) and gender and State estimates by gender. The survey was designed to produce internationally comparable data on tobacco use and tobacco control indicators using a standardized questionnaire, sample design, data collection and management procedures.

GATS 1 covered 69,296 adults, comprising 33,767 males and 35,529 females. Of the total sample size, 41,825 respondents were residents of rural areas and 27,471 respondents lived in urban areas. All 29 States and 2 Union Territories (Puducherry and Chandigarh) were covered in the survey, whose findings were published in 2010 and disseminated systematically through events at national, regional and state levels, as well as media reports.

GATS 1 revealed that 34.6 percent adults in India were using tobacco in some form or the other. While 9 percent said they only smoked tobacco, 21 percent consumed tobacco in the smokeless form. Five percent of those surveyed said they used smoked as well as consumed smokeless tobacco. The prevalence of overall tobacco use among males was reported as 48 percent; 24 percent males were smokers. Compared to this, tobacco use was prevalent only among 20 percent of females, and only 3 percent were smokers. The prevalence of tobacco use was higher in rural areas as opposed to urban pockets.

Prevalence of tobacco use also varied across states, ranging from 9 percent in Goa to 67 percent in Mizoram. The prevalence of tobacco use was higher than the national average in all eight north-eastern states; the five eastern states of West Bengal, Bihar, Jharkhand, Orissa and Chhattisgarh; and the central State of Madhya Pradesh.

Higher prevalence rate for tobacco use was associated with lower levels of education and older age groups. Across all sub-groups (based on gender, age, education, place of residence) that constituted a part of the study, the proportion of smokeless tobacco users was higher than smokers. Overall, over 75 percent were daily users of tobacco. Information was also collected and presented on the age at initiation of tobacco use.

GATS 1 had also explored passive smoking in some detail. The survey revealed that on an average, 52 percent of adults were exposed to second hand smoke (SHS) at home. This figure varied across states, reaching a high of 97 percent in Mizoram. Exposure to SHS at public places also varied across states, ranging from 11 percent in Chandigarh to 54 percent in Meghalaya. Exposure to passive smoking in different public sites was also investigated and the patterns varied across States.

GATS 1 also brought forth information on expenditure incurred on smoking and the use

of smokeless tobacco. The survey also studied awareness around the harmful effects of tobacco, exposure to anti-smoking messages across media and on tobacco product packages, and experiences around efforts at cessation of tobacco use.

## **1.6 POLICY MEASURES SINCE GATS INDIA 2009-10 (GATS 1)**

GATS 1 provided a robust baseline on the many dimensions of tobacco use and control and made way for increased attention on the challenge of tobacco control and the requirement of further measures. At the time of GATS 1, the NTCP was being piloted in 42 districts spread across 21 states (with two districts in each state). In 2013, the programme was expanded to cover 53 districts in 29 states. During the 12th Five Year Plan (2012-17), the programme was to be extended to all districts of the country in a phased manner. During this period, all NTCP activities at the district and below were subsumed under the National Health Mission (NHM) Flexipool for Non-Communicable Disease (NCDs)<sup>(15)</sup>.

One of the big changes brought in by GATS 1 was sharper recognition of the problem of smokeless tobacco and the varied rates of prevalence and forms of tobacco use across states. This brought forth the need for adopting state-specific strategies. In accordance, many states introduced a total ban on the manufacture and sale of *gutka* and *paan masala* (forms of chewing tobacco) containing tobacco or nicotine. Taxes on tobacco products were also hiked marginally, though this did not impact 'real' prices.

Another important development during this period was the emphasis on anti-tobacco messaging in the media and on tobacco packets. Under the NTCP, substantial investments were made on a national level public awareness campaign, across electronic, print and outdoor media.

Focused campaigns on smoking and smokeless forms of tobacco and SHS in different media helped reach out to varied audiences. In 2012, the Government of India also implemented the Rules to regulate depiction of tobacco products or their use in films and television programmes. The Rules provided film theaters and television channels with a mandate to screen pre-approved anti-tobacco health spots, as well as disclaimers at the beginning of and during programs where tobacco consumption was depicted. The Rules also provided for static, text-based health warnings at the bottom of the screen while tobacco was being used by actors on screen. These measures provided a huge impetus to public awareness campaigns of the Ministry. Further, large pictorial health warnings covering 85 percent of both principal display areas of the tobacco package were implemented April 2016 onwards.

In addition, the Government also started a toll-free National Tobacco Quitline under the National Tobacco Control Programme and m-Cessation services under the “WHO-ITU Be Healthy Be Mobile Initiative”<sup>(15)</sup>. Taking into consideration the definite felt need for tobacco cessation, as revealed by GATS 1, the Government undertook capacity building initiatives to expand tobacco cessation facilities across the country.

Emphasis was laid on integrating tobacco cessation in the health care delivery system by encouraging health care institutes to set up tobacco cessation facilities. The Indian Dental Association, a professional organization, initiated the Tobacco Intervention Initiative (TII) to train the dental professionals in tobacco cessation and help to set up cessation clinics<sup>(16)</sup>.

Considerable investment was made in national publicity and awareness building activities, including commemoration of the World No Tobacco Day (WNTD) on 31 May every year<sup>(16)</sup>. WNTD provided a platform to highlight the risks associated with tobacco use and liaise with other Ministries for effective policies to reduce tobacco consumption.

In November 2016, Government of India, in partnership with the WHO FCTC Secretariat, hosted the Seventh Session of the Conference of Parties to WHO FCTC in Greater Noida, Uttar Pradesh, India. In hosting this conference, the Government of India reiterated its commitment to strengthen tobacco control measures, especially in increasing emphasis on regulation of smokeless tobacco products in India.

India also established the ‘Global Knowledge Hub for Smokeless Tobacco’ at the National Institute of Cancer Prevention and Research (NICPR); NICPR will act as a global repository of knowledge related to smokeless tobacco<sup>(17)</sup>.

The National Health Policy 2017 adopted by the Government of India seeks to achieve relative reduction of 15 percent in tobacco use by 2020 and of 30 percent by 2025. It also calls for higher taxes on tobacco and stresses on addressing tobacco, alcohol and substance abuse together, as one of the seven priority areas where coordinated inter-sectoral action is required for preventive and promotive health.

## 1.7 TOWARDS THE SECOND ROUND OF GATS INDIA

GATS 1 not only contributed significantly to government efforts at control of tobacco use, it also helped raise public awareness on the issue and triggered a number of scientific articles, leading to the generation of new knowledge in this area.

Seven years after GATS 1 and the focussed tobacco control measures that followed, the second round of the survey was required to measure the effectiveness of the said measures and inform course correction efforts. The emergence of new products like e-cigarettes, fresh marketing techniques adopted by tobacco manufacturers, and new forms of nicotine replacement therapies needed to be studied as well.

While designing GATS 2, a number of principles were kept at the forefront:

- a. The design of the survey and its tools had to be consistent with the global survey design, since the exercise is part of the Global Surveillance effort. However, India added additional questions wherever it was needed.
  - b. The design of the survey and its tools had to be consistent with the design of GATS 1, so that the results of both surveys would be comparable.
  - c. It was essential to have state-specific data to make the information more relevant and useful for programme planning and management. This implied that region-based sampling would be replaced by state-based sampling. Also, since prevalence rates were known on the basis of GATS 1, states with lower prevalence rates needed a larger sample size to track change. Larger states also needed a larger sample.
  - d. Like in GATS 1, the interview schedule of GATS 2 did not ask for health status with respect to any confirmed communicable or non-communicable disease. However, GATS 2 did introduce a question on tobacco use and exposure to second hand smoke during pregnancy—a question that has considerable importance.
2. To contribute to the understanding of effectiveness of tobacco control measures, based on observed changes in relevant indicators since 2009-10 when GATS 1 India was completed.
  3. The indicators measured included:
    - a. Prevalence of tobacco use as regards smoking and of use of smokeless tobacco.
    - b. Prevalence of second hand exposure to tobacco smoking.
    - c. Prevalence of cessation efforts.
    - d. Economics of tobacco use in terms of monthly expenditures incurred.
    - e. Awareness of measures to tobacco control and exposure to health communication efforts against tobacco use through various media.
    - f. Awareness and perception of the harmful effects of tobacco use.

The main objectives of the Second Round of Global Adult Tobacco Survey – India (referred to as GATS 2), conducted in 2016-17, were drawn up with all the above considerations in mind.

## 1.8 MAIN OBJECTIVES OF GATS 2 INDIA

1. To obtain sufficiently reliable estimates of various dimensions of tobacco use, so as to systematically monitor adult tobacco use and its key tobacco control indicators.

The survey was designed to collect and collate information on all critical indicators of tobacco use, including prevalence among males and females, in rural and urban areas, and at the national and state/ union territory levels.

The total number of states covered in GATS 2 went up to 30 as compared to 29 in GATS 1, owing to the inclusion of the new state of Telangana, carved out of Andhra Pradesh. Coverage of union territories was limited to Chandigarh and Puducherry, as in GATS 1. Only 4 Union Territories representing about 0.01 percent of the Indian population were not included in the survey.

Tata Institute of Social Science (TISS), Mumbai was designated as the nodal implementing agency for GATS 2 by the Ministry of Health and Family Welfare.



## CHAPTER 2

# METHODOLOGY



The Global Adult Tobacco Survey (GATS) is a standardised survey used across nations to monitor the prevalence of adult tobacco use and measure changes in key tobacco control indicators. The first round of this survey was conducted in India in 2009-10. This is the report of the second round of the Global Adult Tobacco Survey in India, conducted in 2016-17; this survey is referred to in this report as “GATS 2”. The survey is a nationally representative household survey of adults, 15 years of age or older, designed to produce internationally comparable data on tobacco use and other tobacco control indicators. The survey used the internationally standardized questionnaire, sample design, data collection, and management procedures. A representative probability sample was used to provide national estimates of tobacco use and its various dimensions according to urban and rural residence and gender, and state estimates by gender. This chapter describes the study population, survey methodology, sampling design, questionnaire, data collection methods and statistical analysis.

## 2.1 STUDY POPULATION

GATS 2 is a household survey and hence included only household population. The target population for the survey was defined as all Indian residents, aged 15 or above, living in their usual residence prior to the survey date. The institutional population comprising those living in collective living places like students’ dormitories, hospitals, hotels, prisons, military barracks, etc were not included in the survey.

The respondents eligible for GATS 2 were all non-institutionalized persons aged 15 or above who resided in the country and agreed to participate in this survey. The eligibility for the individual interview was based on the age reported in the household interview. However, if the eligible respondent was found out to be younger than 15 years during the course of the individual interview, he/she was excluded from the survey.

Participation in the survey was purely voluntary. Before starting every interview, the interviewer read out the consent form (statements) and proceeded for the interview only after obtaining the respondent’s consent. In case of minor respondents aged 15–17 years, interviewers were required to obtain consent from the parent/ guardian of the minor, as well as the respondent. Respondents who had consented for the interview were also given the option of withdrawing from the study at any point in the course of the interview. Respondents also had a right to refuse to answer any question without providing a reason.

## 2.2 SAMPLING DESIGN

GATS 2 India covers all 30 states, also including the National Capital Territory of Delhi and two union territories (UTs)—Chandigarh and Puducherry. It covers about 99.92 percent of the total population of India—1029 million, according to the 2011 Census. The sampling for GATS was done independently in each state/UT; within the state/UT, it was done independently for urban and rural areas (see Appendix for details).



Prevalence rates of tobacco use from GATS 1 survey formed the basis for determining the sample size by gender in each state/UT.

In urban areas, a three stage sampling process was adopted. At the first level, the list of all the wards from all cities and towns of the state/UT constituted the urban sampling frame, from which a required sample of wards (PSUs) was selected using probability proportional to size (PPS) sampling. At the second level, a list of all census enumeration blocks (CEBs) in each selected ward constituted the sampling frame from which one CEB was selected by PPS from each ward. At the third level, a list of all residential households in each selected CEB constituted the sampling frame, from which a sample of required number of households was selected.

In rural areas, a two stage sampling process was adopted. At the first stage of sampling, all villages in the state/UT formed the sampling frame. All small villages having less than five households were removed from the sampling frame. Villages with five to 49 households as per Census of India, 2011 were linked with the neighboring larger villages.

Villages were first stratified using geographical regions; they were further stratified according to village size, proportion of scheduled caste and scheduled tribe population, and female literacy. The required number of PSUs (villages) within each stratum was selected according to PPS sampling. At the second stage, a list of all residential households in each selected village constituted the sampling frame, from which a sample of the required number of households was selected.

A household listing operation carried out in each sample area provided the necessary frame for selecting households at the second stage in rural areas and at the third stage in urban areas. The household listing operation involved preparing up-to-date location and layout sketch maps; assigning a GATS 2 specific number to each structure; recording addresses of the structures; identifying residential structures;

and then listing the names of the head of the households. Listing of all households in large villages with 300 or more households was a massive task and could involve errors due to omission or duplication. Hence, all large villages with 300 or more households were segmented into three or more segments (depending on village size) of almost equal proportion, each being about 100-200 households. From all the segments in each large village, two segments were selected by using PPS sampling. Household listing in large PSUs was done only in two selected segments. In all such large villages, sampling design became a three-stage design.

Thirty households (plus three more, accounting for non-response) were selected from the list of households by systematic random sampling. The 33 selected households in a PSU were divided into two groups: 1) households for interview of a male member, and 2) households for interview of a female member; this was in proportion to the total sample size of male and female interviews in a state. In a selected household, a list of all male/ female members aged 15+ constituted the sampling frame for selection of male/ female respondents. The sampling was done at the headquarters of the implementing agency, and whichever household was selected had to be interviewed. From the total number of male/ female members aged 15 or above in a household, one member was selected for the interview. This selection was random and done via handheld device.

The survey methodology was largely identical to what was used in GATS 1, so that the findings are comparable. GATS 1 provided baseline estimates of prevalence of tobacco use and on key indicators relevant to the tobacco control programme. GATS 2 is designed to measure the changes in these key indicators that have taken place over the last seven years. However, such comparison is not provided for new indicators introduced in GATS 2.

The new indicators introduced in GATS 2 include use of tobacco and exposure to

second hand smoke among pregnant women, and knowledge about the adverse effects of tobacco on the fetus. Questions were also introduced on the perception of users regarding whether tobacco use had bodily harmed them. A section on use of e-cigarettes and water-pipes, and consumption of a number of culturally associated non-tobacco products viz. *paan masala* without tobacco, areca nut and betel quid chewing, were also introduced in GATS 2.

## 2.3 SURVEY QUESTIONNAIRE

GATS 2 used two types of questionnaires: the household questionnaire, and the individual questionnaire. Both questionnaires were based on GATS core questionnaire, which were designed for use in countries implementing GATS. These questionnaires were adapted and modified to reflect issues relevant to India, in consultation with the Technical Advisory and Monitoring Committee (TAMC). Consultation for the India specific adaptation was undertaken with Centers for Disease Control and Prevention (CDC), Atlanta and WHO South East Asia Regional Office (WHO- SEARO). The questionnaire was tested in the field during the pretest, and the final GATS 2 questionnaire was finalized factoring in pretest experiences. The questionnaire was developed in English and later translated into 18 Indian languages used for administration in different states/UTs. Questionnaires were back translated to check the quality of translation. GATS 2 questionnaires are included in Appendix E.

### 2.3.1 Household questionnaire

The household questionnaire was administered to the head of the household or any adult member in the absence of the head. The household questionnaire was designed to collect information on the total number of members in the household, and those aged 15 or above among them, according to their sex. In households selected for interviewing

male respondents, information of all male members regarding their name, age, month and year of birth (in case of those aged 15-17), smoking status and smokeless tobacco use status was collected. Similarly, information of female members was collected in the households selected for interviewing female respondents. Data on age was used to identify an eligible random respondent for the individual questionnaire. The decision regarding interviewing a male/ female respondent within a household was made during the household selection process itself, and corresponding case management files were loaded in each handheld device.

### 2.3.2 Individual questionnaire

The Individual questionnaire was administered to the individual aged 15 or above, selected randomly for the interview by the handheld device. This selection was made from a list of male or female members, which had been entered as response to the household questionnaire. Consent statements were obtained before starting the individual interview. The individual questionnaire consisted of eight sections:

1. **Background characteristics:** Questions on sex, month and year of birth, age, education, occupation, possession of household items, religion, caste, marital status and pregnancy status (in case of females aged below 50) were included in this section.
2. **Tobacco smoking:** Questions in this section covered patterns of use (daily smoking, less than daily smoking, not at all), former/past smoking, age of initiation of daily smoking, daily/weekly smoking of different tobacco products (cigarettes, *bidi*, *hukkah*, pipes, cigars and other smoked tobacco), time to the first smoke of a day after waking up and attempts to quit. In addition, there were two sub-sections on water-pipes and electronic cigarettes respectively.

3. **Smokeless tobacco:** Questions included patterns of use (daily consumption, less than daily consumption, not at all), former/past use of smokeless tobacco, age at initiation of daily use of smokeless tobacco, consumption of different smokeless tobacco products, time to the first use of smokeless tobacco after waking up, attempts to quit. A sub-section on use of products that are consumed without tobacco, but have a relationship culturally to use of smokeless tobacco, was included. *Paan masala* without tobacco, betel quid without tobacco, and areca nut are examples of such products.
4. **Cessation:** Questions related to quit attempts, advice to quit smoking by health care providers, methods used to quit smoking and future plans to quit smoking were included. Similar questions were designed for cessation of use of smokeless tobacco as well.
5. **Second hand smoke:** Questions focused on whether smoking was allowed in homes, exposure to second hand smoke at home, indoor smoking policy at work places, exposure to second hand smoke during the past 30 days at the work place or in any public place, like government buildings/offices, private offices, health care facilities, restaurants, public transportation, bars/night clubs and cinema hall/theatre.
6. **Economics:** Questions were designed to collect information on type of tobacco product and the quantity in which it was bought, cost of tobacco products, and source of purchase of the last tobacco product.
7. **Media:** Questions on exposure to advertising in different media, exposure to tobacco promotion as part of sporting events or in any other form were included. Questions on reaction to health warning labels on cigarette packages and

exposure to anti-tobacco advertising and information were also included. Similar questions were included for smoked as well as smokeless tobacco. The reference period for the questions in this section was the preceding 30 days.

8. **Knowledge, attitudes and perceptions:** Questions regarding knowledge about health effects of smoking and smokeless tobacco were included in this section.

## 2.4 QUESTIONNAIRE PROGRAMMING AND PREPARATION OF HANDHELD COMPUTERS

Handheld devices in the form of tablets were used to record responses to household and individual questionnaires at national level. General Survey Software (GSS), developed by RTI International was used on the handheld devices to capture the survey data. The GATS 2 questionnaire was programmed in GSS software as well.

The handheld device used in the field for data collection operates on Android 4.4.2 with a Quad-core 1.2 GHz processor and 1.5 GB RAM.

The GSS Software was developed to facilitate administration, collection, and management of survey data. It is a dual system, with one component designed to run on a computer (PC), and the other designed to run on an Android-based handheld (portable/mobile) device.

Programming was supported by international IT partner RTI International. The programming of the questionnaire in GSS software was carried out in collaboration with in-country IT personnel of the implementing agency.

The GATS India questionnaire was translated into 18 different regional languages; thus, the questionnaire was programmed using GSS software in 19 languages, including English. All handheld devices had the questionnaire

available in all 19 languages, and the interviewer could switch to any language for the interview.

Quality control mechanisms were used repeatedly to test the quality of questionnaire programming, following GATS Programmer's Guide to General Survey System manual<sup>(15)</sup>. The main steps involved in quality control checks were: version control/verification for household and individual questionnaires; date and time verification; verification of skip patterns; and validation checks. The entire process—including questionnaire administration, data collection using handheld machines, data transmission, data management and aggregation (preparing a raw data for analysis)—was pre-tested in the field in Lucknow, Uttar Pradesh, between 15 February, 2016 and 22 February, 2016.

Data was transmitted via cloud systems using syncing software. A cloud server setup was established by the national implementing agency for this purpose. This server system was used to transmit data to and from the handheld devices. Each handheld device was remotely connected to the central cloud server using the sync software.

Handheld devices were programmed for data transmission, and final questionnaire for data collection uploaded in the form of case management files, in July 2016 by the data management team from the implementing agency, along with IT personnel from CDC and RTI international. The electronic case management files used for identifying selected household addresses and for entering the data of that selected household were uploaded in two phases. The case files for phase one—during which research agencies were taking up the first set of states—were uploaded into the handheld devices during the National Training of Trainer's (TOT) in July-August 2016; the case files for phase two, for the second set of states, was uploaded into the handheld devices remotely from the implementing agency office in October-November 2016.

## 2.5 RECRUITMENT, TRAINING AND FIELD WORK

### 2.5.1 Organizations involved in GATS India

GATS 2 is a project of the Ministry of Health & Family Welfare (MoHFW), Government of India. MoHFW designated Tata Institute of Social Sciences (TISS), Mumbai as the nodal implementing agency for the survey. A Technical Advisory and Monitoring Committee (TAMC) of Indian Experts, constituted by MoHFW, provided guidance to GATS 2 at all stages, and on all aspects of the project, especially on design and questionnaire contents, tabulation, format of the report and dissemination of results. An international advisory committee, and its sub-committees on questionnaire and on sampling and data management, provided guidance and review at the international level.

GATS 2 survey proposal, protocols and questionnaires were reviewed and approved by the Ethics Review Committee, Institutional Review Board (IRB) of TISS. Technical support was provided by CDC, USA and the World Health Organization, and international IT partner RTI International.

For GATS 2, data collection work was entrusted to 10 reputed research agencies (RAs) across the country; they worked under the overall guidance and supervision of the nodal implementing agency. Research agencies recruited researchers as per requirement for mapping and listing households, and then for data collection from the PSUs. Research Officers who supervised state level work on behalf of the nodal implementing agency were recruited, trained and deployed by TISS.

### 2.5.2 Pretest

The pretest of GATS 2 was conducted in and around Lucknow, a city in Uttar Pradesh, in February, 2016. The scope of pretest was much broader than the usual pretest of questionnaires. It served the objectives of: 1) identifying

problems encountered in administering the questionnaire; 2) identifying gaps in the training manual and in training programmes; 3) testing field protocol; and 4) achieving standardisation on the IT equipment, data management systems and development of IT training manuals. The pretest was organised in partnership with Giri Institute of Development Studies (GIDS), Lucknow. A team of 20 interviewers and 4 supervisors identified by GIDS were involved in pretest.

The pre-test achieved its main objectives. It ensured that the questionnaire was thoroughly reviewed under field conditions; that the IT system was checked out; that the IT team was provided with avenues for comprehensive capacity building—of skills and confidence necessary for carrying out its function. Resource persons of the implementing agency were exposed to issues in training, supervision, manual preparation and integration with the IT component. But over and above these targeted objectives, the pretest also served to forge the personnel into a leadership team and provided them with the encouragement, confidence and motivation to work together to implement GATS 2 in a time-bound manner, without any compromise in quality.

### 2.5.3 Manual

For the standardization of survey protocol and procedures across the survey areas, and to minimize non-sampling errors, the following different instruction manuals were prepared:

1. **Field Interviewer's Manual:** This manual was intended to help investigators in conducting data collection work effectively. The manual included general guidelines and tips to conduct interviews and minimize non-response.
2. **Question-by-Question Specifications:** This manual was intended to help investigators while interviewing the respondent. The manual discussed each question included in the questionnaire

one after the other and was intended to guide the interviewer in asking questions and recording responses.

3. **Field Supervisor's Manual:** This manual was intended to help team supervisors in supervising data collection work. The manual described the roles and responsibilities of the Field Supervisor.
4. **Mapping and Listing Manual:** This manual was intended to guide the mapping and listing team in mapping and listing households effectively. It discussed each step involved in drawing 'Location and Layout' maps of each ultimate sampling area and listing all structures and households within it. This exercise provided the lists from which the implementing agency would draw the household sample; it also had enough detail to subsequently help the data collection team locate the selected household.
5. **Training Manual:** The manual was intended to guide senior staff of research agencies in conducting training programmes for all staff involved in GATS India. It described the expected schedule and contents of an ideal training programme.

### 2.5.4 Training Programme

GATS 2 was to be implemented by 10 different research agencies in 30 states and two Union Territories, and training of field staff was to be conducted at 32 different locations by officials of these 10 agencies. Three centralized training workshops were organized by TISS to train these trainers and TISS personnel involved in GATS 2, so as to ensure standardization in the entire procedure.

1. **Mapping and house-listing:** This was intended to equip personnel from regional agencies to conduct training in their state/UT, and coordinate and supervise the mapping and house-listing operation. The training was conducted



over three days, on 13-15 April, 2016. On the first two days, there were classroom lectures; they were followed by a practice session on the third day. The practice session involved mapping and house listing in one urban area and one village. TISS faculty and experts from our national and international partners were involved as resource persons in the training programme.

## 2. Training of interviewers and supervisors:

This was intended to equip personnel from regional agencies to train field interviewers and supervisors in their state/UT. A Training of Trainers workshop programme was organized during 21 July, 2016 to 3 August, 2016. The programme began with a language review, followed by setting up tablets and uploading case files needed for training in the first phase, and their distribution. During this same period, between 27 July, 2016 and 3 August, 2016, three senior persons from each research agency were introduced to GATS 2 objectives, sampling, mapping, houselisting, and interviewing techniques. They were also provided with background information on different tobacco products used in India, the Government of India's tobacco free initiative and policy banning media advertisement of tobacco, etc.

The training programme emphasized a systematic discussion of each question in the questionnaire. Experts in the area of tobacco control delivered special lectures. The training programme also included demonstration interviews, mock interviews, as well as practice interviews in nearby urban slums. TISS faculty and officials from MoHFW, WHO, CDC, and RTI were involved as resource persons in the training programme. Personnel from regional agencies who were trained at TISS imparted training to field staff in their respective state/UT.

Five TISS faculty and one doctoral student of the School of Health Systems Studies

of TISS, and field research officers and the headquarters research staff of GATS 2 project also attended relevant training programmes. This enabled them to provide required support and guidance to teams in the next stage.

3. **Training of IT Managers:** A special training programme for IT professionals from research agencies was organised as a parallel session during the National TOT. IT professionals were trained in the use of the handheld device used for data collection; they were also trained in data transfer and trouble-shooting common problems. Research agencies had been asked to bring along one IT professional as part of their team for this very purpose. In the subsequent stage, these IT professionals assisted research agencies in data management.

## 2.5.5 Field work

The fieldwork was conducted between August 2016 and February 2017. Over 90 percent data collection was completed by November 2016. Data collection for only three states extended to mid January; for one state, it extended to early February. The first part of field work involved the mapping and listing operation in all selected PSUs. Upon completion of this work in each of state, all maps and listing of households in each sample area were uploaded on the GATS 2 cloud. The TISS data management team made the randomized selection of 33 households in each PSU, and its allocation into male and female households according to the distribution decided upon for that state. Then, the case management files of these households were uploaded into the handheld devices of male and female interviewers respectively. All households which had to list and interview females were necessarily interviewed only by female interviewers.

Each field data collection team comprised two male interviewers, two female interviewers and one supervisor. It was mandatory for every field team to visit each selected PSU for at least



for two days. For assuring quality data, TISS assigned one Research Officer to every state/UT, who supervised the mapping and listing of households, and data collection work. TISS employed as many as 23 research officers during the fieldwork period to provide technical support and quality assurance at all levels of data collection.

In addition to TISS Research Officers, faculty of the School of Health Systems Studies who were part of the training and support team for GATS 2 also monitored field work.

## **2.6 DATA PROCESSING AND AGGREGATION**

Data collected from interviews were entered into the tablet on the case management system in the field itself. At the end of each day of data collection, complete data files from every tablet in each state was transmitted to the cloud server using wireless internet. The received data files were then securely collated from the cloud server to a workstation by the TISS data management team. After collating the data files, they were aggregated using the aggregation module in GSS to generate a master data file. Checks were performed on this master data file to ensure quality. The checks included data validation and skip patterns, interview time and duration, and inspection for any unusual pattern from any particular team or investigator. Any issues/problems that were encountered by the data team were reported back to respective teams and field coordinators by the faculty coordinator; this was done through the

agency coordinator and research officers to ensure appropriate action was implemented. The process of data aggregation and quality checking was carried out on a daily basis. On completion of field work, all the tablet exported data files were aggregated to generate the master data file; this master data file includes all the recorded interviews. Using the master data file and the Master File Merge module of GSS, data files were generated in various statistical software formats (SPSS, STATA, etc.) for further analysis and reporting.

## **2.7 STATISTICAL ANALYSIS**

GATS national data file in SPSS format was used for the purpose of tabulation. The tabulated data only included cases where respondents reported their smoking status and/ or status of smokeless tobacco use, and allowed the individual interview to cover at least the first four sections.

The collected data was suitably weighted to improve representativeness of the sample in terms of size, distribution, and characteristics of the study population. The weights were derived considering design weight (reciprocal of the probability of selection), household response rate and individual response rate. Post-stratification calibration was done for age-sex-residence distribution on the survey period in each state/UT. Details of the weighting procedure are provided in Appendix B on Sample design.

All the statistical analysis was done using SPSS-20 software.

**Table 2.1:** Sample size by gender, residence and number of Primary Sampling Units (PSU) by residence, across states/UTs, GATS 2 India, 2016-17

Allocation of total sample size by gender				Allocation of sample by residence			Number of PSUs by residence		
State	Total	Male	Female	% Urban	Urban	Rural	Total	Urban	Rural
Jammu & Kashmir	2,500	1,000	1,500	27.4	685	1,815	83	23	60
Himachal Pradesh	2,500	1,000	1,500	10.0	250	2,250	83	8	75
Punjab	2,500	1,000	1,500	37.5	938	1,562	83	31	52
Chandigarh	2,500	1,000	1,500	97.3	2,433	67	83	81	2
Uttarakhand	2,500	1,000	1,500	30.2	755	1,745	83	25	58
Haryana	2,500	1,000	1,500	34.9	872	1,628	83	29	54
Delhi	2,500	1,000	1,500	97.5	2,437	63	83	81	2
Rajasthan	3,000	1,500	1,500	24.9	747	2,253	100	25	75
Uttar Pradesh	3,500	1,750	1,750	22.3	781	2,719	117	26	91
Chhattisgarh	2,000	1,000	1,000	23.2	464	1,536	67	15	52
Madhya Pradesh	3,000	1,500	1,500	27.6	828	2,172	100	28	72
West Bengal	3,000	1,500	1,500	31.9	957	2,043	100	32	68
Jharkhand	2,000	1,000	1,000	24.0	480	1,520	67	16	51
Odisha	2,000	1,000	1,000	16.7	334	1,666	67	11	56
Bihar	3,000	1,500	1,500	11.3	339	2,661	100	11	89
Sikkim	1,500	750	750	25.2	378	1,122	50	13	37
Arunachal Pradesh	1,500	750	750	22.9	344	1,156	50	11	39
Nagaland	1,500	750	750	28.9	434	1,066	50	14	36
Manipur	1,500	750	750	32.5	487	1,013	50	16	34
Mizoram	1,500	750	750	52.1	782	718	50	26	24
Tripura	1,500	750	750	26.2	393	1,107	50	13	37
Meghalaya	1,500	750	750	20.1	301	1,199	50	10	40
Assam	3,000	1,500	1,500	14.1	423	2,577	100	14	86
Gujarat	3,000	1,500	1,500	42.6	1,278	1,722	100	43	57
Maharashtra	3,500	1,750	1,750	45.2	1,582	1,918	117	53	64
Goa	2,500	1,000	1,500	62.2	1,555	945	83	52	31
Andhra Pradesh	2,000	1,000	1,000	33.4	668	1,332	67	22	45
Telangana	2,000	1,000	1,000	33.4	668	1,332	67	22	45
Karnataka	3,000	1,500	1,500	38.7	1,161	1,839	100	39	61
Kerala	2,500	1,000	1,500	47.7	1,193	1,307	83	40	43
Tamil Nadu	3,000	1,500	1,500	48.4	1,452	1,548	100	48	52
Pudducherry	2,500	1,000	1,500	68.3	1,707	793	83	57	26
<b>India</b>	<b>76,500</b>	<b>35,750</b>	<b>40,750</b>	<b>31.2</b>	<b>28,106</b>	<b>48,394</b>	<b>2,549</b>	<b>935</b>	<b>1,614</b>



## CHAPTER 3

# SAMPLE AND POPULATION CHARACTERISTICS

This chapter presents details of sample implementation at household and individual level, and at national and state/ UT level. The detail includes information on proportion of sample coverage at household and person-level, as well as response rates. Description of surveyed individuals according to selected background characteristics is also included in this chapter.

### 3.1 SAMPLE COVERAGE, HOUSEHOLD AND PERSON-LEVEL RESPONSE RATES

Table 3.1 shows the unweighted number of households and persons selected for the survey and the status of completion by place of residence. A sample of 84,047 households (30,821 from urban areas and 53,226 from rural areas) was selected for the survey. In 77,170 of these selected households (27,721 from urban areas and 49,449 from rural areas), household interview was completed; one person from each household was selected for the individual interview. In 3,376 households (4.0 percent of selected households), household interview was completed; however, no one was found eligible for individual interviews in these households. These households had been selected for male or female interview, but there was no adult male or female respectively aged 15 or above available. In 2.6 percent households, there was no one at home, and in 0.3 percent households, respondents refused to participate in the survey.

The household response rate was 96.7 percent. In urban areas, household response rate was 95.2 percent, which was lower than the 97.6 percent household response rate obtained in rural areas.

Out of the total 77, 170 households where household interviews were completed and one person was selected for an individual interview, 74,037 individual interviews were completed. An individual interview was considered “completed” if the respondent had completed at least half the questionnaire (till question E01), and there were valid answers to six questions on tobacco use (questions B01, B02, B03 on tobacco smoking and to questions C01, C02, C03 on smokeless tobacco use) where applicable. A total of 26,488 and 47,549 interviews were completed in urban areas and rural areas respectively. In 2.6 percent cases, the person selected for individual interview was not at home; in 0.1 percent cases, the selected person refused to give the interview. In a small proportion of cases (0.1%), the person selected for the individual interview was later found ineligible, primarily because he/ she had not attained the age of 15 years. The person-level response rate was 96.0 percent (95.6% in urban areas and 96.3% in rural areas). The overall response rate, calculated as the product of response rates at the household and person-level, was 92.9 percent. The overall response rate in urban areas was 91.1 percent, lower than the overall response rate of 93.9 percent in rural areas.

**Table 3.1:** Distribution of selected households and persons by interview completion status and response rates, by residence (unweighted), GATS 2 India, 2016-17

	Residence				Total	
	Urban		Rural		Number	Percent
	Number	Percent	Number	Percent		
<b>Selected Household</b>						
Completed (HC)	27,721	89.9	49,449	92.9	77,170	91.8
Completed – No one eligible (HCNE)	1,263	4.1	2,113	4.0	3,376	4.0
Incomplete (HINC)	26	0.1	17	0.0	43	0.1
No screening respondent (HNS)	44	0.1	28	0.1	72	0.1
Nobody home (HNNH)	1,097	3.6	1,104	2.1	2,201	2.6
Refused (HR)	179	0.6	40	0.1	219	0.3
Unoccupied (HUO)	365	1.2	377	0.7	742	0.9
Address not a dwelling (HAND)	82	0.3	63	0.1	145	0.2
Other <sup>1</sup> (HO)	44	0.1	35	0.1	79	0.1
Total Households Selected	30,821	100	53,226	100	84,047	100
<b>Household Response Rate (HRR)<sup>2</sup></b>		95.2		97.6		96.7
<b>Selected Person</b>						
Completed (PC)	26,488	95.6	47,549	96.2	74,037	95.9
Incomplete (PINC)	4	0.0	16	0.0	20	0.0
Not eligible (PNE)	26	0.1	50	0.1	76	0.1
Not at home (PNH)	804	2.9	1,177	2.4	1,981	2.6
Refused (PR)	66	0.2	38	0.1	104	0.1
Incapacitated (PI)	317	1.1	610	1.2	927	1.2
Other <sup>1</sup> (PO)	16	0.1	9	0.0	25	0.0
Total Number of Sampled Persons	27,721	100	49,449	100	77,170	100
<b>Person-level Response Rate (PRR)<sup>3</sup></b>		95.6		96.3		96.0
<b>Total Response Rate (TRR)<sup>4</sup></b>		91.1		93.9		92.9

1 Other includes any other result not listed.

2 The Household Response Rate (HRR) is calculated as:

$$\frac{HC \times 100}{HC + HINC + HNS + HNNH + HR + HO}$$

3 The Person-level Response Rate (PRR) is calculated as:

$$\frac{PC \times 100}{PC + PINC + PNH + PR + PI + PO}$$

4 The Total Response Rate (TRR) is calculated as:  
(HRR × PRR) / 100

**Notes:**

- An incomplete household interview (i.e., roster could not be finished) was considered a non-respondent to GATS. Thus, these cases (HINC) were not included in the numerator of the household response rate.
- The Total Number of Sampled Persons should be equal to the number of Completed [HC] household interviews.
- A completed person interview [PC] includes respondents who had completed at least question E01 and who provided valid answers to questions B01/B02/B03 (and C01/C02/C03 where applicable). Respondents who did not meet these criteria were considered as incomplete (PINC) non-respondents to GATS and thus, were not included in the numerator of the person-level response rate.

### 3.2 SAMPLE COVERAGE, HOUSEHOLD AND PERSON-LEVEL RESPONSE RATES BY STATE/UT

The distribution of selected households by interview completion status and household response rates according to states/UTs in India is presented in Table 3.2. The subsequent Table 3.3 shows the distribution of number of persons selected for individual interview by interview completion status, person level and total response rate according to state/UT.

The household response rate was 100 percent in Meghalaya and Nagaland. Even in Bihar and Manipur, household response rate was almost 100 percent. On the contrary, in Goa (85.2%), Maharashtra (92.1%), Telangana (94.0%), Chandigarh (94.5%), Odisha and Kerala (both 94.6%), it was less than 95 percent. The main reason for lower household response rate was sizeable number of households where no one was at home.

The individual response rate in many states, especially in the north-east, was 98 percent or higher. Similar to low household response rates, person level response rates were also lower than 95 percent in Kerala (90.0%), Karnataka (91.1%), Goa (91.9%), Maharashtra (93.5%), Telangana (94.2%) and Gujarat (94.3%). Here too, the main reason for lower person level response rate was that a sizeable number of selected persons were not at home when interviews were conducted in their area.

The total response rate, a product of household and person level response rate, was on the lower side in states/ UTs where the constituent rates were low. In Kerala (80.7%), Karnataka (82.9%), Goa (84.3%), Maharashtra (86.7%), Telangana (88.5%) and Gujarat (89.0%), the total response rate was lower than 90 percent.

### 3.3 CHARACTERISTICS OF SAMPLED RESPONDENTS

Table 3.4 presents the unweighted count of sampled respondents and population estimates classified according to select socio-demographic characteristics. The unweighted sample count of persons who completed individual interview was 74,037. The projected population of persons aged 15 or above in India as on 1 October, 2016—the middle point of the survey period—was 932.5 million.

Out of the projected population, 51.1 percent were males, and 48.9 percent were females.

The population in four broad age-groups of 15-24, 25-44, 45-64 and 65+ years was 26.8, 41.3, 23.5 and 8.4 percent of the total population, respectively. Of the estimated population age, 15 and above 65.5 percent of people from these four age-groups were residents of rural areas; 34.5 percent were from urban areas.

A little more than one-fourth (26.4%) had no formal schooling; 9.2 percent had been to school but did not complete primary education. More than one-third (36.1%) of the respondents had either completed secondary schooling or had higher education.

The occupational distribution of respondents shows that most of them were either self-employed (40.6%) or home makers (30.1%). About one in eight (11.9%) were students and 11 percent were employed government/ non-government organisations. Those currently non-working, either because they were unemployed or retired, constituted six percent of all respondents.



**Table 3.2:** Distribution of selected households by interview completion status and response rates, according to states/UTs (unweighted), GATS 2 India, 2016-17

States/UTs	Completed (HC)	Complete, no one eligible (HCNE)	Incomplete (HINC)	Not screening respondent (HNS)	No body home (HINH)	Refused (HR)	Unoccupied (HUO)	Address not a Dwelling (HAND)	Other <sup>1</sup> (HO)	Total Household Selected	Household Response Rate <sup>2</sup> (HRR)
India	77,170	3,376	43	72	2,201	219	742	145	79	84,047	96.7
Jammu & Kashmir	2,575	36	1	1	43	7	10	0	0	2,673	98.0
Himachal Pradesh	2,627	88	0	0	15	1	4	4	0	2,739	99.4
Punjab	2,600	43	0	0	49	5	28	13	1	2,739	97.9
Chandigarh	2,417	148	1	0	119	5	31	2	16	2,739	94.5
Uttarakhand	2,482	182	0	2	42	6	25	0	0	2,739	98.0
Haryana	2,626	56	3	0	23	1	20	7	3	2,739	98.9
Delhi	2,409	141	2	5	89	26	54	12	1	2,739	95.1
Rajasthan	3,127	132	0	0	33	1	6	1	0	3,300	98.9
Uttar Pradesh	3,617	138	1	0	62	6	37	0	0	3,861	98.1
Chhattisgarh	2,109	74	0	0	25	0	2	1	0	2,211	98.8
Madhya Pradesh	3,075	87	2	4	110	11	7	2	2	3,300	96.0
West Bengal	3,066	145	0	1	71	3	5	9	0	3,300	97.6
Jharkhand	2,042	65	1	3	91	1	5	1	2	2,211	95.4
Odisha	1,942	134	0	2	104	5	20	3	0	2,210	94.6
Bihar	3,160	122	0	0	17	0	1	0	0	3,300	99.5
Sikkim	1,453	148	3	3	21	3	11	5	3	1,650	97.8

States/UTs	Completed (HC)	Complete, no one eligible (HCNE)	Incomplete (HINC)	Not screening respondent (HNS)	No body home (HNH)	Refused (HR)	Unoccupied (HUO)	Address not a Dwelling (HAND)	Other <sup>1</sup> (HO)	Total Household Selected	Household Response Rate <sup>2</sup> (HRR)
Arunachal Pradesh	1,426	148	1	1	64	1	8	0	1	1,650	95.4
Nagaland	1,612	37	0	0	0	0	1	0	0	1,650	100.0
Manipur	1,626	16	0	0	3	0	2	0	0	1,647	99.8
Mizoram	1,581	41	2	1	8	1	15	1	0	1,650	99.2
Tripura	1,570	49	0	0	17	0	13	1	0	1,650	98.9
Meghalaya	1,623	26	0	0	0	0	1	0	0	1,650	100.0
Assam	3,014	189	1	4	40	5	33	3	11	3,300	98.0
Gujarat	2,898	116	2	3	116	14	115	26	10	3,300	95.2
Maharashtra	3,391	133	3	2	228	53	38	10	3	3,861	92.1
Goa	2,221	95	15	30	303	28	16	20	11	2,739	85.2
Andhra Pradesh	2,007	125	2	2	46	2	24	2	1	2,211	97.4
Telangana	1,947	95	1	0	110	11	40	5	2	2,211	94.0
Karnataka	2,987	113	1	5	102	7	74	7	4	3,300	96.2
Kerala	2,438	130	1	0	125	11	30	3	1	2,739	94.6
Tamil Nadu	2,990	210	0	0	63	4	33	0	0	3,300	97.8
Puducherry	2,512	114	0	3	62	1	33	7	7	2,739	97.2

**Table 3.3:** Distribution of selected persons by interview completion status and response rates, according to states/UTs (unweighted), GATS 2 India, 2016-17

State/UT	Completed (PC)	Incomplete (PINC)	Not eligible (PNE)	Not at home (PNH)	Refused (PR)	Incapacitated (PI)	Other <sup>1</sup> (PO)	Total number of sampled persons	Person-level response rate <sup>2</sup> (PRR)	Total response rate <sup>3</sup> (TRR)
India	74,037	20	76	1981	104	927	25	77,170	96.1	92.2
Jammu & Kashmir	2,491	0	3	48	1	32	0	2,575	96.8	93.6
Himachal Pradesh	2,547	0	2	9	0	69	0	2,627	97.0	94.0
Punjab	2,513	1	1	65	2	18	0	2,600	96.8	93.5
Chandigarh	2,351	0	1	43	1	17	4	2,417	97.3	94.8
Uttarakhand	2,410	0	1	63	1	7	0	2,482	97.1	94.3
Haryana	2,505	0	2	54	1	64	0	2,626	95.4	91.0
Delhi	2,311	0	6	72	2	18	0	2,409	96.0	92.1
Rajasthan	3,033	0	2	15	0	77	0	3,127	97.0	94.0
Uttar Pradesh	3,464	0	6	103	3	41	0	3,617	95.8	91.8
Chhattisgarh	2,087	0	0	10	0	12	0	2,109	99.0	97.9
Madhya Pradesh	2,934	0	1	112	4	23	1	3,075	95.5	91.2
West Bengal	2,920	2	1	122	2	19	0	3,066	95.4	90.9
Jharkhand	1,942	1	2	71	0	25	1	2,042	95.1	90.5
Odisha	1,858	0	3	60	2	19	0	1,942	95.8	91.6
Bihar	3,114	1	4	25	0	16	0	3,160	98.6	97.1
Sikkim	1,416	1	1	11	3	21	0	1,453	97.7	95.2

State/UT	Completed (PC)	Incomplete (PINC)	Not eligible (PNE)	Not at home (PNH)	Refused (PR)	Incapacitated (PI)	Other <sup>1</sup> (PO)	Total number of sampled persons	Person-level response rate <sup>2</sup> (PRR)	Total response rate <sup>3</sup> (TRR)
Arunachal Pradesh	1,373	0	1	42	0	10	0	1,426	96.3	92.6
Nagaland	1,595	0	3	1	0	13	0	1,612	98.9	97.8
Manipur	1,619	0	0	2	0	5	0	1,626	99.6	99.1
Mizoram	1,566	0	1	0	12	2	0	1,581	99.8	98.8
Tripura	1,559	0	1	2	0	7	1	1,570	99.3	98.6
Meghalaya	1,582	0	2	1	0	38	0	1,623	97.5	95.0
Assam	2,864	4	1	74	4	67	0	3,014	95.3	90.6
Gujarat	2,731	0	3	116	3	42	3	2,898	94.3	89.0
Maharashtra	3,141	2	9	171	31	35	2	3,391	93.5	86.7
Goa	2,029	4	1	141	9	32	5	2,221	91.9	84.3
Andhra Pradesh	1,966	0	2	36	1	2	0	2,007	98.0	96.0
Telangana	1,827	2	0	49	5	63	1	1,947	94.2	88.5
Karnataka	2,714	2	11	195	5	55	5	2,987	91.1	82.9
Kerala	2,186	0	2	209	10	31	0	2,438	90.0	80.7
Tamil Nadu	2,915	0	2	37	2	33	1	2,990	97.6	95.1
Puducherry	2,474	0	1	22	0	14	1	2,512	98.5	97.0

**Table 3.4:** Unweighted sample counts and weighted population estimates by selected background characteristics, GATS 2 India, 2016-17

*In thousands*

Background characteristic	Unweighted number	Weighted population estimates	
		Number	Percentage
<b>Overall</b>	74,037	932,488	100.0
<b>Age</b>			
15-24	13,329	250,044	26.8
25-44	35,564	385,235	41.3
45-64	19,132	218,803	23.5
65+	6,012	78,407	8.4
<b>Gender</b>			
Male	33,772	476,499	51.1
Female	40,265	455,989	48.9
<b>Residence</b>			
Urban	26,488	321,648	34.5
Rural	47,549	610,839	65.5
<b>Education level</b>			
No formal schooling	18,473	246,228	26.4
Less than primary	7,510	86,052	9.2
Primary but less than secondary	20,967	262,614	28.2
Secondary and above	27,028	337,027	36.1
Missing	59	566	0.1
<b>Occupation</b>			
Government and non-government employee	9,614	102,895	11.0
Self employed	27,704	378,529	40.6
Student	6,134	111,142	11.9
Home maker	25,833	280,332	30.1
Retired or unemployed	4,722	59,212	6.3

### 3.4 POPULATION DISTRIBUTION BY STATE/UT

The distribution of unweighted count of respondents and weighted population estimates by states/ UTs is shown in Table

3.5. There is wide variation in population size across states/UTs. Uttar Pradesh (15.7%) accounts for one-sixth of the estimated population. Thirteen states/UTs each account for less than one percent of the population.

**Table 3.5:** Unweighted sample counts and weighted population estimates according to states/UTs, GATS 2 India, 2016-17

*In thousands*

State/UT	Unweighted number	Weighted Population Estimates	
		Number	Percentage
<b>India</b>	74,037	932,488	100
Jammu & Kashmir	2,491	9,328	1.0
Himachal Pradesh	2,547	5,507	0.6
Punjab	2,513	22,551	2.4
Chandigarh	2,351	944	0.1
Uttarakhand	2,410	7,807	0.8
Haryana	2,505	20,166	2.2
Delhi	2,311	14,849	1.6
Rajasthan	3,033	51,300	5.5
Uttar Pradesh	3,464	146,429	15.7
Chhattisgarh	2,087	19,306	2.1
Madhya Pradesh	2,934	54,547	5.8
West Bengal	2,920	72,656	7.8
Jharkhand	1,942	24,215	2.6
Odisha	1,858	32,554	3.5
Bihar	3,114	72,760	7.8
Sikkim	1,416	496	0.1
Arunachal Pradesh	1,373	1,050	0.1
Nagaland	1,595	1,508	0.2
Manipur	1,619	2,232	0.2
Mizoram	1,566	840	0.1
Tripura	1,559	2,906	0.3
Meghalaya	1,582	2,112	0.2
Assam	2,864	23,422	2.5
Gujarat	2,731	47,872	5.1
Maharashtra	3,141	90,998	9.8
Goa	2,029	1,207	0.1
Andhra Pradesh	1,966	39,718	4.3
Telangana	1,827	28,008	3.0
Karnataka	2,714	48,734	5.2
Kerala	2,186	27,063	2.9
Tamil Nadu	2,915	58,399	6.3
Puducherry	2,474	1,008	0.1





## CHAPTER 4

# TOBACCO USE



GATS 2 was designed, much like GATS 1, to collect data on tobacco use and its aspects. Additionally, it also sought to collect data on electronic cigarettes (e-cigarettes)—a product that has recently appeared in the market—and three non-tobacco products; betel quid without tobacco, *paan masala* without tobacco and areca nut.

This chapter presents findings on the prevalence of tobacco use in India and its varied dimensions. These include use of different tobacco products, frequency of use, age at the time of initiation, attempts to quit tobacco use, and the time of day when users first use tobacco. In addition to tobacco use, this chapter also presents findings on use of non-tobacco products mentioned above.

In most countries across the world, tobacco use is synonymous with cigarette smoking. In contrast, the forms of tobacco use in India are multiple. Broadly, these forms can be classified into two types—smoking tobacco and smokeless tobacco. Smoking tobacco includes products like *bidi*, manufactured cigarette, hand-rolled cigarette, pipe, cigar, *hukkah*, water-pipe, *chutta*, *dhumti* and *chillum*.

Smokeless tobacco is available courtesy products like betel quid with tobacco, *khaini*, *gutka* and *paan masala with* tobacco; these are all consumed by chewing. Other smokeless tobacco products, such as *mishri*, *gul*, *bajjar* and *gudakhu*, are applied to teeth and gums, while snuff is inhaled.

## 4.1. TOBACCO USE

This section presents the prevalence of tobacco use in all its forms.

### 4.1.1 Prevalence of tobacco use

Table 4.1 provides a glimpse of the broad parameters *via-a-vis* tobacco consumption in the country among adults\*. The adult population is divided into three mutually exclusive categories: 1) current daily users of tobacco, 2) current occasional tobacco users, and 3) current non-users. The figure for current tobacco is obtained by adding current daily and current occasional tobacco users. Current occasional tobacco users are divided into two categories: current occasional but former daily tobacco users; and current as well as former occasional tobacco users. All non-users are divided into three categories: current non-users but former daily tobacco users; current non-users but former occasional tobacco users; and never users of tobacco.

GATS 2 reveals that 28.6 percent of adults in India use tobacco in some form; they either smoke or chew tobacco, or apply it to their teeth and gums, or inhale it. Among current tobacco users in the country, 87 percent are daily users (24.9% of all adults) and the remaining 13 percent are occasional tobacco users (3.7% of all adults). Of all adults, 71.4 percent are current non-users of tobacco.

Among these current non-users, 4 percent (3.1% of all adults) were formerly using tobacco but have currently stopped using it; whereas 96 percent (68.4% of all adults) have never used any tobacco product in their lifetime. The prevalence of current tobacco use among men is 42.4 percent as compared with 14.2 percent among women. About one-third (32.5%) of adults from rural areas and more than one-fifth

\* Adults wherever used in the text refers to persons aged 15 or above.

**Table 4.1:** Percentage of adults aged 15 or above by detailed status of tobacco use, according to gender and residence, GATS 2 India, 2016-17

Status of tobacco use	Overall	Gender		Residence	
		Men	Women	Urban	Rural
<b>Current tobacco user</b>	28.6	42.4	14.2	21.2	32.5
Daily user	24.9	36.9	12.4	17.9	28.6
Occasional user	3.7	5.5	1.8	3.3	3.9
Occasional user, former daily	1.0	1.4	0.5	0.9	1.0
Occasional user, never daily	2.7	4.1	1.3	2.4	2.9
<b>Current non-user</b>	71.4	57.6	85.8	78.8	67.5
Former daily user	1.9	2.6	1.1	1.8	1.9
Never daily user	69.5	55.0	84.7	77.0	65.6
Former occasional user	1.2	1.7	0.6	1.1	1.2
Never user	68.4	53.2	84.2	75.9	64.4

(21.2%) from urban areas currently use tobacco. Among men as well as women, and in urban as well as rural areas, 84 to 88 percent of current users are daily users of tobacco.

#### 4.1.2 Number of tobacco users

As per GATS 2, currently in India there are 266.8 million tobacco users aged 15 or above (Table 4.2). Among current users, 202.0 million are men and 64.8 million are women; 68.2 million are from urban areas

and 198.6 million are from rural areas. The estimated number of daily tobacco users is 232.4 million and that of occasional users is 34.4 million. Among the total adult population of 932.5 million, 665.7 million adults currently do not use tobacco in any form. However, in the past, 28.2 million of these current non-users had used tobacco, either daily or occasionally. In other words, 295.1 million adult Indians have used tobacco at some point in the life, while 637.4 million adults have never used tobacco.

**Table 4.2:** Number of adults aged 15 or above by detailed status of tobacco use, according to gender and residence, GATS 2 India, 2016-17

*Number in thousands*

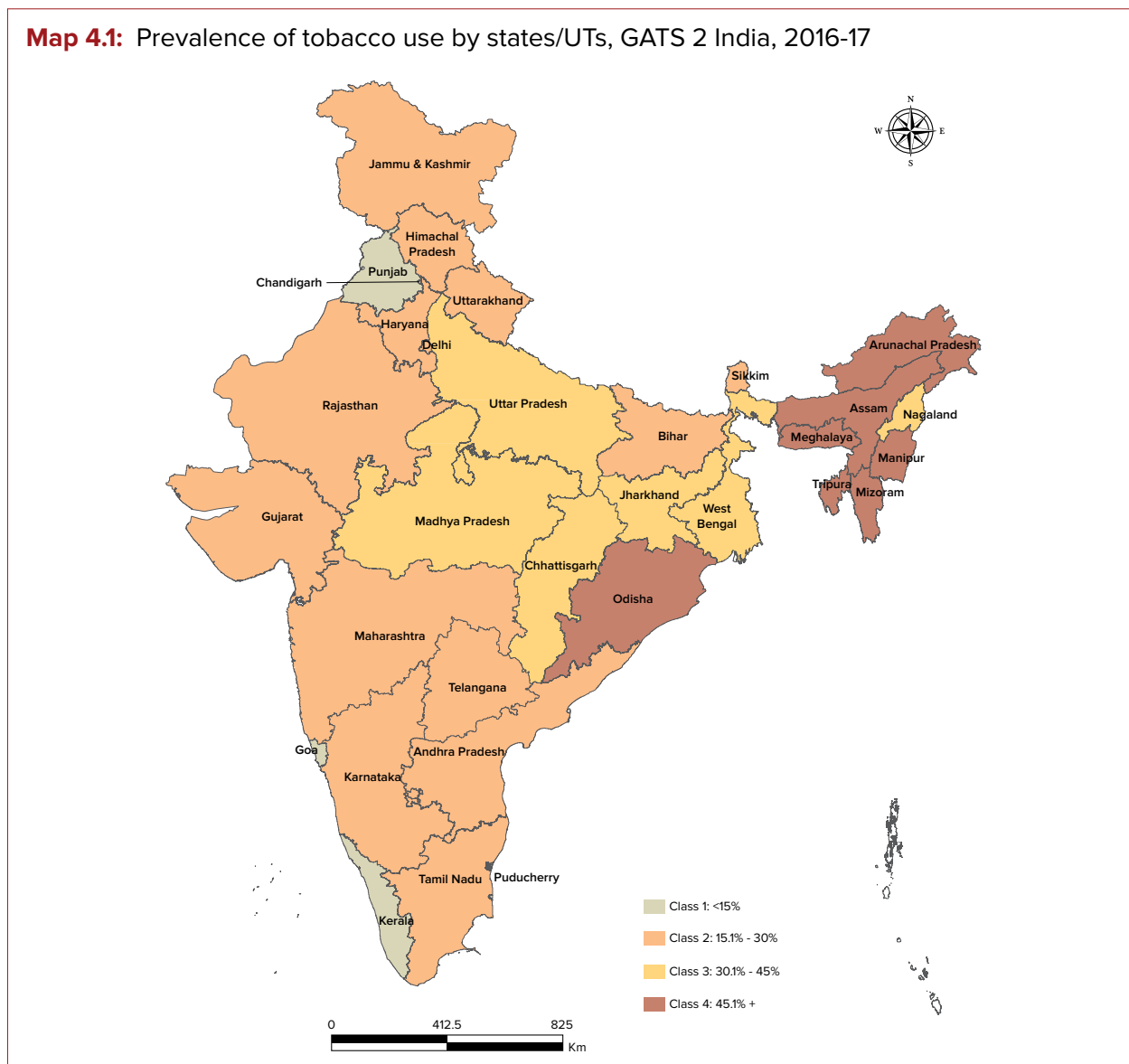
Status of tobacco use	Overall	Gender		Residence	
		Men	Women	Urban	Rural
<b>Total</b>	932,488	476,499	455,989	321,648	610,839
<b>Current tobacco user</b>	266,812	201,980	64,832	68,174	198,639
Daily user	232,396	175,823	56,574	57,600	174,796
Occasional user	34,416	26,158	8,258	10,573	23,843
Occasional user, former daily	8,944	6,550	2,394	2,907	6,037
Occasional user, never daily	25,472	19,608	5,864	7,667	17,806
<b>Current non-user</b>	665,676	274,519	391,157	253,475	412,201
Former daily user	17,365	12,530	4,835	5,774	11,591
Never daily user	648,311	261,989	386,322	247,701	400,610
Former occasional user	10,878	8,329	2,550	3,537	7,342
Never user	637,433	253,660	383,773	244,165	393,268

### 4.1.3 Prevalence of tobacco use by state/UT

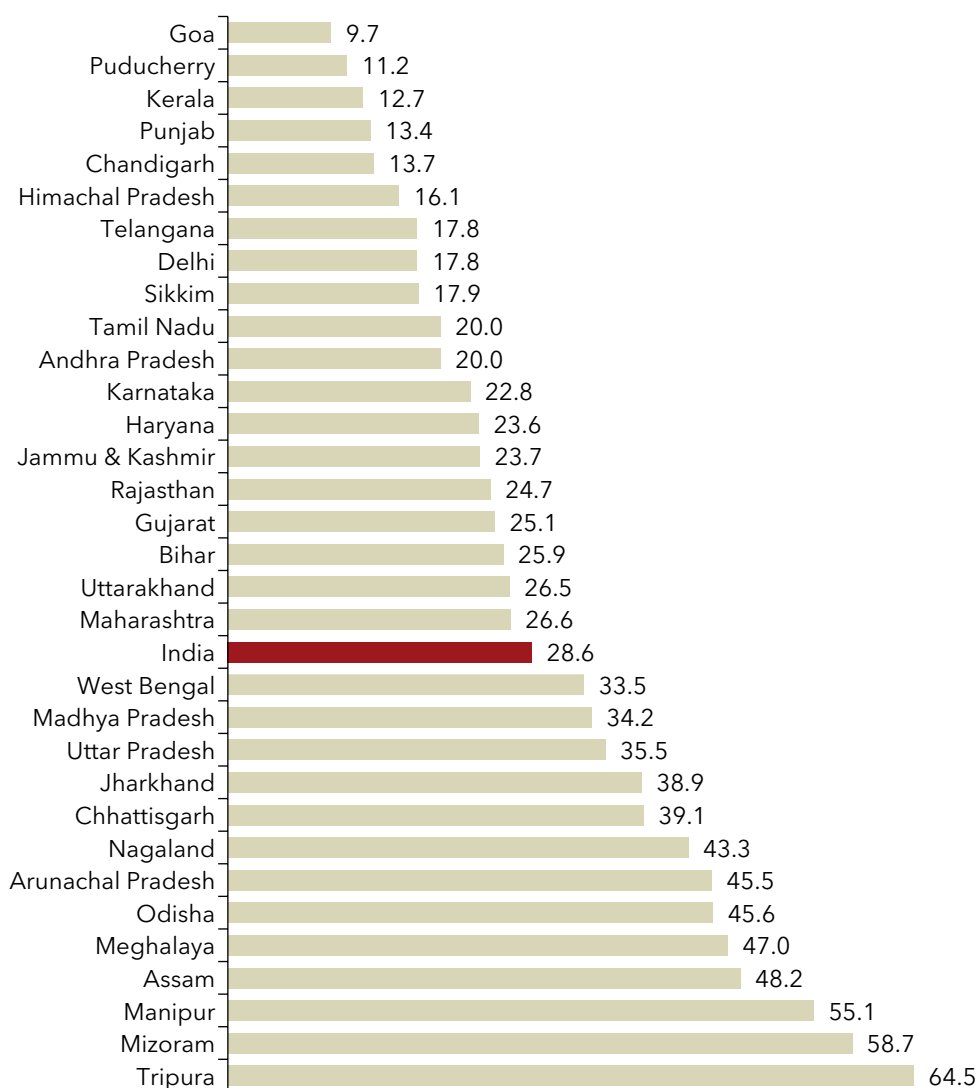
Table 4.3, Figure 4.1 and Map 4.1 together provide a glimpse of state/UT level differentials vis-à-vis prevalence of tobacco use among adults, according to gender. The Appendix Tables A-4.1, A-4.2 and A-4.3 present details of tobacco use for total, male, and female adult population, respectively. There is wide variation in the prevalence of tobacco use across states and UTs. Among all states/UTs, the highest prevalence of tobacco use is reported in Tripura (64.5%), while the lowest prevalence is reported in Goa (9.7%). In Tripura, and in the neighboring states of Mizoram (58.7%) and Manipur (55.1%), the number of tobacco users

outnumbers non-users of tobacco. In all states from the western and the southern parts of the country, prevalence of tobacco use is lower than the national average of 28.6 percent. In the north-eastern and eastern states, barring Sikkim, the prevalence of tobacco use among adults is higher than the national average.

Prevalence rates in states and UTs and their respective population size are key factors that decide how each state or UT contributes to the total number of tobacco users at the national level. For instance, tobacco users in Uttar Pradesh, the country's most populous state, account for 20 percent of total tobacco users in India. The three large states of Uttar Pradesh, West Bengal and Maharashtra have the highest



**Figure 4.1:** Percentage of current tobacco users among states/UTs, GATS 2 India, 2016-17



number of tobacco users, and together account for more than one-third (38%) of the tobacco users in India. When five more states—Bihar, Madhya Pradesh, Odisha, Rajasthan and Gujarat—are included to the big three, the eight states account for two-thirds (67%) of tobacco users in India. All the seven states from north-east with high tobacco prevalence together account for less than seven percent of tobacco users in the country (Table not presented).

As is the case at the national level, most tobacco users in all states/UTs are daily users. In all the states/UTs—except in Goa, Nagaland, Manipur and Kerala—at least 75 percent of current users resort to tobacco use everyday. In the four states mentioned above, daily users comprise

50 percent or more of current users of tobacco (Appendix Table A-4.1).

The state level variation in the prevalence of tobacco use among men is much narrower than among women. In most states/UTs, the prevalence of tobacco use among men is at least double the figure among women. The exceptions are Odisha, Nagaland, Tripura, Mizoram, Meghalaya, Assam and Manipur. In Manipur, Mizoram and Tripura, tobacco use among women is closer to the prevalence in men. The following table (Table 4.4) summarizes the variation in prevalence of tobacco use among men and women across the states and UTs. Within each cell, states/UTs are arranged according to ascending level of tobacco use.

**Table 4.3:** Current tobacco use among adults aged 15 or above, by gender according to states and UTs, GATS 2 India, 2016-17

State/ UT	Percentage of adults currently using tobacco in any form		
	Overall	Men	Women
India	28.6	42.4	14.2
Jammu & Kashmir	23.7	39.7	6.2
Himachal Pradesh	16.1	30.4	1.7
Punjab	13.4	25.3	0.5
Chandigarh	13.7	23.3	1.7
Uttarakhand	26.5	43.6	9.3
Haryana	23.6	39.1	6.3
Delhi	17.8	28.9	4.8
Rajasthan	24.7	39.6	9.0
Uttar Pradesh	35.5	52.1	17.7
Chhattisgarh	39.1	53.7	24.6
Madhya Pradesh	34.2	50.2	17.3
West Bengal	33.5	48.5	17.9
Jharkhand	38.9	59.7	17.0
Odisha	45.6	57.6	33.6
Bihar	25.9	43.4	6.9
Sikkim	17.9	26.4	8.4
Arunachal Pradesh	45.5	61.1	28.7
Nagaland	43.3	54.1	31.7
Manipur	55.1	62.5	47.8
Mizoram	58.7	64.9	52.4
Tripura	64.5	67.5	61.4
Meghalaya	47.0	59.8	34.2
Assam	48.2	62.9	32.9
Gujarat	25.1	38.7	10.4
Maharashtra	26.6	35.5	17.0
Goa	9.7	15.3	4.0
Andhra Pradesh	20.0	30.0	10.1
Telangana	17.8	25.9	9.8
Karnataka	22.8	35.2	10.3
Kerala	12.7	22.9	3.6
Tamil Nadu	20.0	31.0	9.3
Puducherry	11.2	17.7	5.1



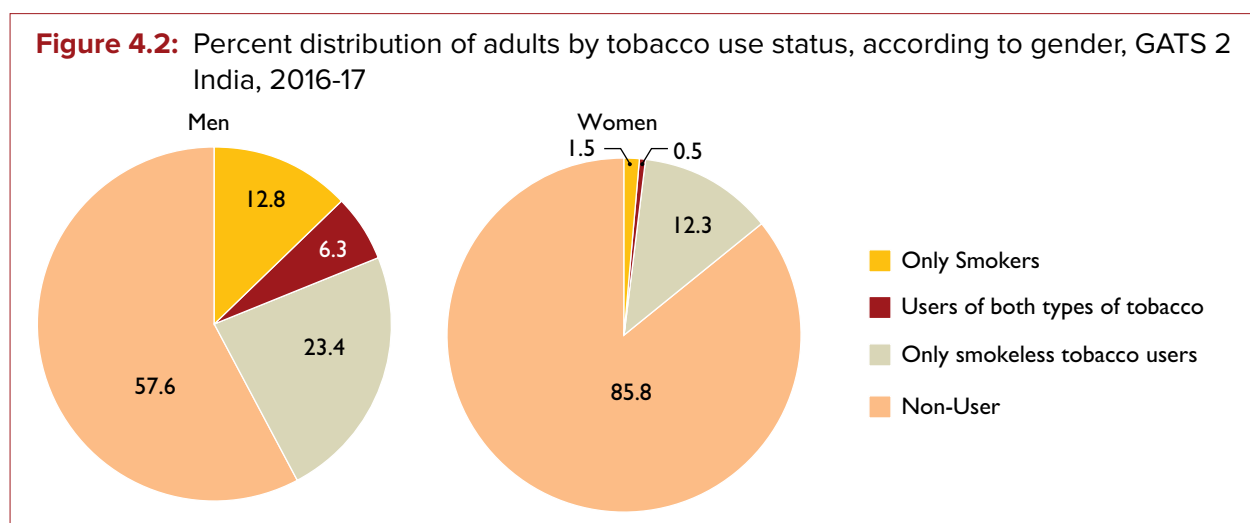
**Table 4.4:** Classification of states/ UTs according to prevalence of tobacco use among men/ women, GATS 2 India, 2016-17

Tobacco prevalence %	Total	Men	Women
Less than 5%	--	--	Punjab, Chandigarh, Himachal Pradesh, Kerala, Goa, Delhi
5% - 10%	Goa,	--	Puducherry, Jammu & Kashmir, Haryana, Bihar, Sikkim, Rajasthan, Uttarakhand, Tamil Nadu, Telangana
10% - 20%	Puducherry, Kerala, Punjab, Chandigarh, Himachal Pradesh, Delhi, Telangana, Sikkim	Goa, Puducherry	Andhra Pradesh, Karnataka, Gujarat, Jharkhand, Maharashtra, Madhya Pradesh, Uttar Pradesh, West Bengal
20% - 30%	Andhra Pradesh, Tamil Nadu, Karnataka, Haryana, Jammu & Kashmir, Rajasthan, Gujarat, Bihar, Uttarakhand, Maharashtra	Kerala, Chandigarh, Punjab, Telangana, Sikkim, Delhi	Chhattisgarh, Arunachal Pradesh
30% - 40%	West Bengal, Madhya Pradesh, Uttar Pradesh, Jharkhand, Chhattisgarh	Andhra Pradesh, Himachal Pradesh, Tamil Nadu, Karnataka, Maharashtra, Gujarat, Haryana, Rajasthan, Jammu & Kashmir	Nagaland, Assam, Odisha, Meghalaya
40% - 50%	Nagaland, Arunachal Pradesh, Odisha, Meghalaya, Assam	Bihar, Uttarakhand, West Bengal	Manipur
50% and above	Manipur, Mizoram, Tripura	Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Nagaland, Odisha, Jharkhand, Meghalaya, Arunachal Pradesh, Manipur, Assam, Mizoram, Tripura	Mizoram, Tripura

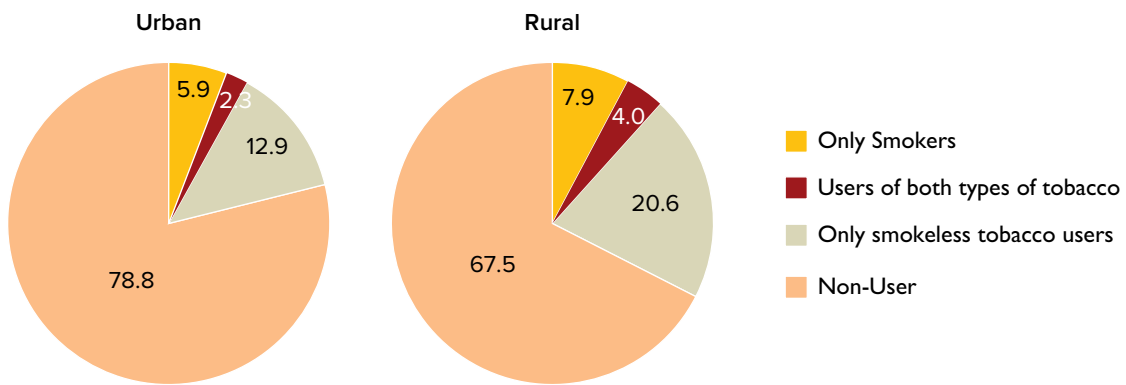
#### 4.1.4 Prevalence of tobacco use by background characteristics

Table 4.5 and Figure 4.2, 4.3 and 4.4 present the proportion of adults who: currently smoke

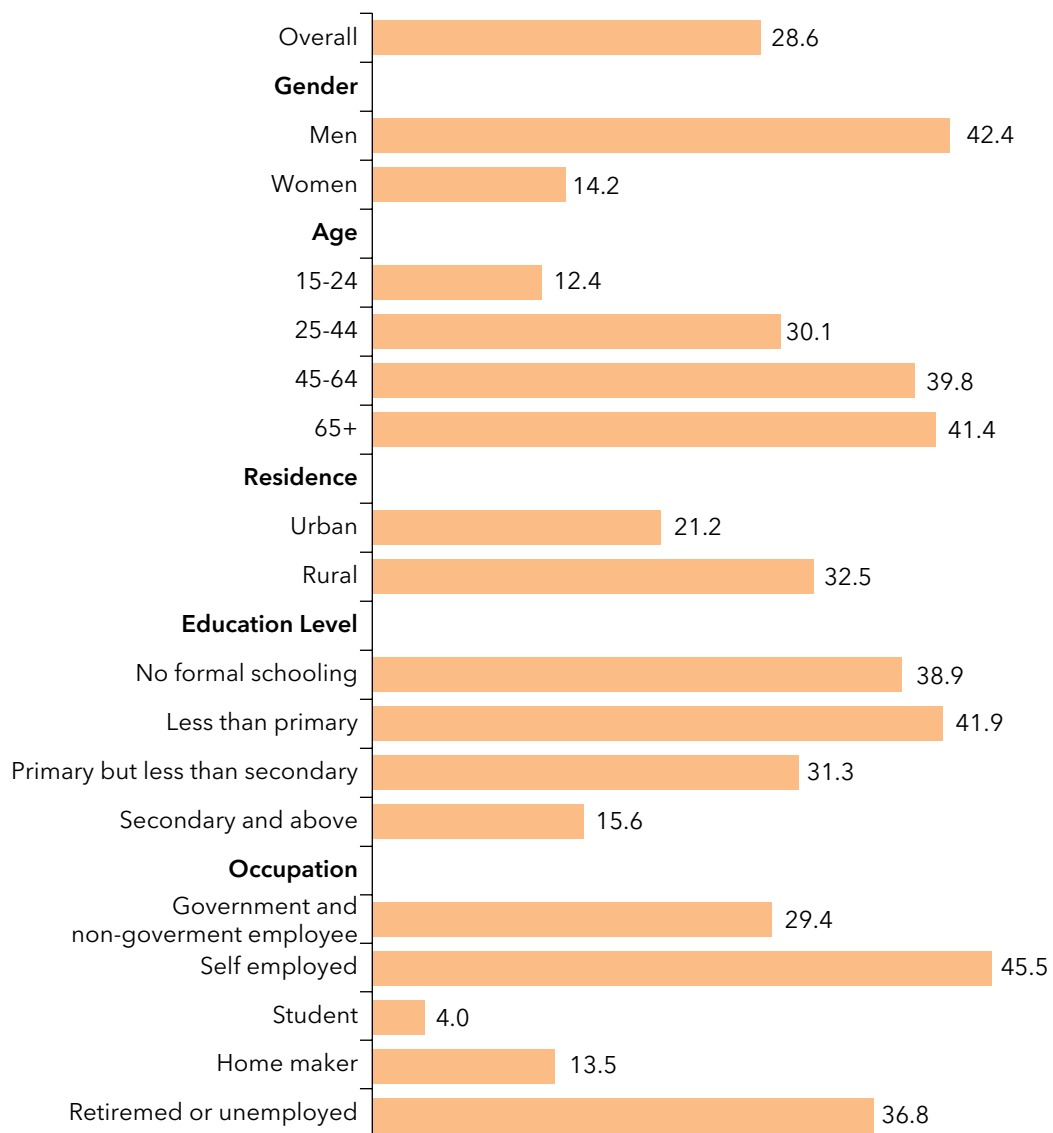
tobacco but do not use smokeless tobacco; those who smoke as well as use smokeless tobacco; those who use only smokeless tobacco; proportion of adults who do not use tobacco in any form; classification of data



**Figure 4.3:** Percent distribution of adults by tobacco use status, according to residence, GATS 2 India, 2016-17



**Figure 4.4:** Percentage of current tobacco users by background characteristics, GATS 2 India, 2016-17



according to age-group, residence and level of education of tobacco users.

As reported earlier, 28.6 percent of adults in India currently use tobacco in some form or the other. These 28.6 percent tobacco users consist of 7.2 percent who smoke but do not

use smokeless tobacco; 17.9 percent who use smokeless tobacco but do not smoke; and the remaining 3.4 percent of who smoke as well as use smokeless tobacco. One in every eight adult tobacco users in the country uses both types of tobacco—smoking tobacco as well as smokeless tobacco.

**Table 4.5:** Percent distribution of adults aged 15 or above by tobacco use pattern, according to background characteristics, GATS 2 India, 2016-17

Background Characteristics	Current tobacco user	Type of current tobacco use			Non-user	Total
		Smoked only	Smokeless only	Both smoked and smokeless		
<b>Overall</b>	28.6	7.2	17.9	3.4	71.4	100
<b>Age</b>						
15-24	12.4	1.6	9.1	1.8	87.6	100
25-44	30.1	6.8	19.2	4.1	69.9	100
45-64	39.8	12.7	23.0	4.1	60.2	100
65+	41.4	11.8	25.9	3.7	58.6	100
<b>Residence</b>						
Urban	21.2	5.9	12.9	2.3	78.8	100
Rural	32.5	7.9	20.6	4.0	67.5	100
<b>Education Level</b>						
No formal schooling	38.9	10.0	24.6	4.2	61.1	100
Less than primary	41.9	11.2	24.6	6.1	58.1	100
Primary but less than secondary	31.3	7.2	20.0	4.1	68.7	100
Secondary and above	15.6	4.2	9.7	1.7	84.4	100
<b>Occupation</b>						
Government and non-government employee	29.4	7.9	17.8	3.7	70.6	100
Self employed	45.5	12.3	26.7	6.5	54.5	100
Student	4.0	1.0	2.6	0.4	96.0	100
Home maker	13.5	1.7	11.4	0.5	86.5	100
Retired or unemployed	36.8	11.6	22.1	3.1	63.2	100
<b>Men</b>	42.4	12.8	23.4	6.3	57.6	100
<b>Age</b>						
15-24	20.3	2.9	14.0	3.4	79.7	100
25-44	47.6	12.6	27.4	7.6	52.4	100
45-64	55.7	22.3	26.1	7.3	44.3	100
65+	52.6	19.8	26.6	6.2	47.4	100

Background Characteristics	Current tobacco user	Type of current tobacco use			Non-user	Total
		Smoked only	Smokeless only	Both smoked and smokeless		
<b>Residence</b>						
Urban	32.6	11.1	17.3	4.2	67.4	100
Rural	47.6	13.6	26.6	7.3	52.4	100
<b>Education Level</b>						
No formal schooling	66.1	24.1	31.1	10.9	33.9	100
Less than primary	62.4	19.7	31.9	10.8	37.6	100
Primary but less than secondary	47.8	12.4	28.3	7.0	52.2	100
Secondary and above	24.4	6.9	14.7	2.8	75.6	100
<b>Occupation</b>						
Government and non-government employee	34.6	9.8	20.1	4.6	65.4	100
Self employed	53.3	15.8	29.1	8.4	46.7	100
Student	6.1	1.7	3.8	0.6	93.9	100
Home maker	42.9	15.0	23.4	4.5	57.1	100
Retired or unemployed	42.6	16.1	22.5	4.1	57.4	100
<b>Women</b>	14.2	1.5	12.3	0.5	85.8	100
<b>Age</b>						
15-24	3.7	0.1	3.6	0.0	96.3	100
25-44	12.0	0.9	10.7	0.4	88.0	100
45-64	23.5	2.8	19.8	0.9	76.5	100
65+	31.0	4.4	25.3	1.3	69.0	100
<b>Residence</b>						
Urban	9.0	0.4	8.3	0.3	91.0	100
Rural	16.9	2.0	14.3	0.6	83.1	100
<b>Education Level</b>						
No formal schooling	25.9	3.3	21.5	1.1	74.1	100
Less than primary	17.4	1.1	15.9	0.4	82.6	100
Primary but less than secondary	9.9	0.4	9.2	0.3	90.1	100
Secondary and above	2.5	0.1	2.4	0.0	97.5	100
<b>Occupation</b>						
Government and non-government employee	9.5	0.7	8.8	0.0	90.5	100
Self employed	22.5	2.0	19.6	0.9	77.5	100
Student	0.9	0.0	0.8	0.0	99.1	100
Home maker	13.0	1.5	11.1	0.4	87.0	100
Retired or unemployed	25.2	2.7	21.4	1.2	74.8	100

The table also shows that in India, prevalence of the use of smokeless tobacco is much higher than that of tobacco smoking. Within each sub-category—defined to place of residence, age-group, education level and occupation, and gender—the prevalence of smokeless tobacco use is higher than the prevalence of tobacco smoking.

Among both men and women, the prevalence of tobacco use is higher in rural as compared to urban areas. In rural areas, 47.6 percent of men and 16.9 percent of women use tobacco in any form, compared to 32.6 percent and 9.0 percent among men and women respectively from urban areas. Prevalence of tobacco use also increases with age. In men, it increases from 20.3 percent in the 15-24 age-group to 55.7 percent in the 45-64 age-group; it decreases to 52.6 percent in the oldest age-group of 65 and above. However, the prevalence of tobacco use among women increases consistently with age from 3.7 percent at 15-24 age-group to 31.0 percent among women aged 65 and above.

Use of tobacco in both smoked and smokeless forms, also referred to as dual use, is more prevalent among men than women. The proportion of adults who use tobacco in both the forms is 6.3 percent (15% of all adult male tobacco users) among men as compared to 0.5 percent (4% of all adult female tobacco users) among women.

Tobacco use is inversely related to education. Among both men and women, tobacco use in every form—either as smoking or smokeless tobacco use—decreases sharply with education.

For example, prevalence of tobacco use among men and women with no formal education is highest, at 66.1 percent and 25.9 percent respectively. Among those with secondary education or more, the prevalence of tobacco use is lower; it is 24.4 percent among men and only 2.5 percent among women.

Prevalence of dual use of tobacco also decreases with increase in education. Men with no formal education or less than primary education (11% each) are more likely to use both forms of tobacco than their educated counterparts. Similarly, women with no formal education (1.1%) are more likely to smoke as well as use smokeless tobacco.

Among adults engaged in varied categories of occupation, tobacco use is high among self-employed and retired/unemployed adults; 45.5 percent of self-employed adults (53.3% men and 22.5% women) and 36.8 percent retired/unemployed (42.6% men and 25.2% women) currently use tobacco. The prevalence rates for smoked tobacco and dual use among adults from these two occupational categories is high as well.

The state level variation in the prevalence of different types of tobacco use among the adult population is presented in Table 4.6.

It is already noted that at the national level, prevalence of smokeless tobacco use is much higher than prevalence of tobacco smoking. This is the pattern we find in most states as well. However, in six states/UTs from the north, three states from the south, and three states from the north-east, the prevalence of smoking is higher than smokeless tobacco use. For example, in Jammu & Kashmir, 20.8 percent adults smoke tobacco and 4.3 percent use smokeless tobacco. Similarly, in Andhra Pradesh, 14.2 percent smoke tobacco and 7.1 percent use smokeless tobacco. As a general trend, dual use is low across states. Important exceptions to this are states from the north-east, where it could be more than one in ten of the population. In Uttar Pradesh and Jharkhand, the prevalence of dual use is about 7 percent.

The state/UT level variation in prevalence rates for different types of tobacco use among men and women is presented in Appendix tables A-4.4 and A-4.5.

**Table 4.6:** Percent distribution of adults aged 15 or above who are current tobacco users by tobacco use pattern, by states/UTs, GATS 2 India, 2016-17

States/UT	Current tobacco user	Type of current tobacco use			Non-user	Total
		Smoked only	Smokeless only	Both smoked and smokeless		
India	28.6	7.2	17.9	3.4	71.4	100
Jammu & Kashmir	23.7	19.4	2.9	1.4	76.3	100
Himachal Pradesh	16.1	13.0	1.9	1.2	83.9	100
Punjab	13.4	5.5	6.1	1.8	86.6	100
Chandigarh	13.7	7.6	4.3	1.8	86.3	100
Uttarakhand	26.5	14.2	8.4	3.9	73.5	100
Haryana	23.6	17.3	3.9	2.4	76.4	100
Delhi	17.8	8.9	6.5	2.3	82.2	100
Rajasthan	24.7	10.6	11.5	2.6	75.3	100
Uttar Pradesh	35.5	6.2	22.0	7.4	64.5	100
Chhattisgarh	39.1	3.1	33.7	2.4	60.9	100
Madhya Pradesh	34.2	6.1	24.0	4.1	65.8	100
West Bengal	33.5	13.5	16.9	3.2	66.5	100
Jharkhand	38.9	3.5	27.7	7.7	61.1	100
Odisha	45.6	2.8	38.6	4.3	54.4	100
Bihar	25.9	2.4	20.8	2.7	74.1	100
Sikkim	17.9	8.2	7.0	2.7	82.1	100
Arunachal Pradesh	45.5	6.2	22.9	16.5	54.5	100
Nagaland	43.3	4.3	30.1	8.9	56.7	100
Manipur	55.1	7.4	34.2	13.5	44.9	100
Mizoram	58.7	25.1	24.3	9.2	41.3	100
Tripura	64.5	16.0	36.8	11.7	35.5	100
Meghalaya	47.0	26.7	15.4	4.9	53.0	100
Assam	48.2	6.5	34.9	6.8	51.8	100
Gujarat	25.1	5.9	17.4	1.8	74.9	100
Maharashtra	26.6	2.2	22.8	1.6	73.4	100
Goa	9.7	3.2	5.5	1.0	90.3	100
Andhra Pradesh	20.0	12.8	5.7	1.4	80.0	100
Telangana	17.8	7.7	9.5	0.6	82.2	100
Karnataka	22.8	6.5	14.0	2.3	77.2	100
Kerala	12.7	7.3	3.4	2.0	87.3	100
Tamil Nadu	20.0	9.5	9.5	1.0	80.0	100
Puducherry	11.2	6.4	4.0	0.8	88.8	100



## 4.1.5 Tobacco Use during Pregnancy

Use of tobacco during pregnancy, and exposure to second hand smoke, has adverse impact on pregnancy—on the mother as well as the baby. This could include cases of premature birth, birth defects or infant death. Women who smoke during pregnancy are more likely than others to have a miscarriage. Smoking can cause problems with the placenta—the source of the baby’s food and oxygen during pregnancy. The placenta, for instance, could separate from the womb too early, causing bleeding, posing danger to the mother and the baby. Babies born to women who smoke are more likely to have certain birth defects, like a cleft lip or cleft palate<sup>(18)</sup>. Consumption of smokeless tobacco during pregnancy decreases gestational age at birth and birth weight, independent of gestational age<sup>(19)</sup>.

Although there is evidence supporting the link between tobacco use during pregnancy and its impact on the mother and baby, there is no data on the proportion of pregnant women who are at risk due to tobacco use. GATS 2 provides data on proportion of pregnant women who are current users of tobacco or are exposed to second hand smoke (while pregnant). In GATS 2, all women below the

age of 50 were asked about their current pregnancy status.

As seen in Table 4.7, 7.5 percent of adult women below 50, who were pregnant at the time of the survey, reported using tobacco. Most of the pregnant women who were using tobacco were using the smokeless variety (7.4% among pregnant women). Prevalence of smoking among pregnant women is quite low (0.7%). Among pregnant women from rural areas and those aged 25-44 years, prevalence of tobacco use is higher than that among their respective urban counterparts. One in every 10 pregnant women aged 25-49 uses tobacco, primarily in the smokeless form. One in 12 pregnant women in rural areas use tobacco, also in the smokeless form.

In Table 4.7A below, the prevalence of tobacco use in pregnant women across states is presented. In all states, less than one percent of the pregnant women reported smoking. Exceptions are the five states of Arunachal Pradesh (6.9%), Uttar Pradesh (3.7%), Mizoram (3.1%), Sikkim (3.0%) and Madhya Pradesh (1.3%). However, smokeless tobacco use is prevalent in 19 states/UTs, ranging from 1 percent in Jammu & Kashmir and Chandigarh to 38.2 percent in Arunachal Pradesh to 43.3 percent in Mizoram.

**Table 4.7:** Tobacco use among currently pregnant women according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Percentage of currently pregnant women using		
	Any type of tobacco	Smoking	Smokeless tobacco use
Overall	7.5	0.7	7.4
<b>Age</b>			
15-24	4.7	0.0	4.7
25-49	10.1	1.3	9.9
<b>Residence</b>			
Urban	5.5	0.0	5.5
Rural	8.4	1.0	8.2

**Table 4.7A:** Tobacco use among currently pregnant women by states/UTs, GATS 2, India, 2016-17

State/UT	Percentage of currently pregnant women using		
	Any type of tobacco	Smoking	Smokeless tobacco use
<b>India</b>	7.5	0.7	7.4
Jammu & Kashmir	1.1	0.0	1.1
Himachal Pradesh	0.0	0.0	0.0
Punjab	0.0	0.0	0.0
Chandigarh	1.1	0.0	1.1
Uttarakhand	0.0	0.0	0.0
Haryana	0.0	0.0	0.0
Delhi	0.0	0.0	0.0
Rajasthan	0.0	0.0	0.0
Uttar Pradesh	14.0	3.7	13.2
Chhattisgarh	15.9	0.0	15.9
Madhya Pradesh	13.1	1.3	13.1
West Bengal	5.4	0.0	5.4
Jharkhand	5.9	0.0	5.9
Odisha	33.8*	0.0*	33.8*
Bihar	3.2	0.0	3.2
Sikkim	7.7	3.0	4.6
Arunachal Pradesh	40.4	6.9	38.2
Nagaland	29.1	0.0	29.1
Manipur	36.5	0.0	36.5
Mizoram	43.3	3.1	43.3
Tripura	36.6*	0.0*	36.6*
Meghalaya	20.7	0.0	20.7
Assam	12.4	0.0	12.4
Gujarat	7.7	0.0	7.7
Maharashtra	7.8	0.0	7.8
Goa	0.0	0.0	0.0
Andhra Pradesh	0.0*	0.0*	0.0*
Telangana	0.0	0.0	0.0
Karnataka	0.0	0.0	0.0
Kerala	0.0	0.0	0.0
Tamil Nadu	0.0	0.0	0.0
Puducherry	0.0	0.0	0.0

Note: \*Based on less than 25 unweighted cases.

## 4.1.6 Age at initiation of tobacco use

The age at the initiation of tobacco use, either in the smoking or smokeless form, is an important dimension of tobacco use, since it determines the duration of use. The duration of tobacco use has a direct and conspicuous bearing on the health impact of tobacco use. Furthermore, the degree of addiction to tobacco also depends on the age when tobacco use was started on a daily basis. Table 4.8 presents the distribution of daily smokers according to their age at the initiation of daily tobacco use. The table is restricted to younger respondents as their age at initiation of tobacco use presents the current and recent situation.

Among all daily tobacco users currently aged 20-34 years, 12.2 percent started using tobacco daily before turning 15; 23.6 percent started when they were 15-17; 19.4 percent started

tobacco use at 18-19; and the remaining 44.7 percent after the age of 20. More than one-third (35.8%) of daily tobacco users aged 20-34 had started using tobacco on a daily basis before attaining the age of 18, i.e. when they were minor. The mean age at initiation of daily tobacco use is 18.7 years. The proportion of daily tobacco users who started daily tobacco use before age 18 does not differ either by residence or gender. The mean age at initiation of daily tobacco use is slightly higher among female compared to male tobacco users; and urban compared to rural tobacco users. The mean age at initiation of daily tobacco use increases with increase in the educational level of the tobacco user. In occupational terms, students started using tobacco early (42.4% started tobacco use before age of 18 years) as compared to those from other occupational categories.

**Table 4.8:** Percent distribution of ever daily tobacco users aged 20-34 by age at tobacco use initiation, according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	Age at tobacco initiation				Total	Mean age
	<15	15-17	18-19	20-34		
<b>Overall</b>	12.2	23.6	19.4	44.7	100	18.7
<b>Gender</b>						
Men	11.4	24.4	20.1	44.0	100	18.7
Women	16.6	19.4	15.3	48.8	100	19.2
<b>Residence</b>						
Urban	11.7	23.5	16.0	48.8	100	19.0
Rural	12.4	23.7	20.5	43.4	100	18.7
<b>Education Level</b>						
No formal schooling	17.1	23.8	15.7	43.4	100	18.3
Less than primary	13.9	26.4	21.8	37.9	100	18.2
Primary but less than secondary	12.9	24.0	20.2	43.0	100	18.7
Secondary and above	6.0	21.6	20.1	52.3	100	19.5
<b>Occupation</b>						
Government and non-government employee	12.1	23.7	15.6	48.6	100	19.0
Self employed	11.9	24.0	20.6	43.5	100	18.6
Student	11.9	30.5	19.7	38.0	100	17.9
Home maker	13.3	21.1	17.9	47.8	100	19.3
Retired or unemployed	17.0	19.6	15.9	47.5	100	18.5

### 4.1.7 Age at initiation of tobacco use by state/UT

The pattern of age at initiation of tobacco use varies across states and UTs (Table 4.9). In Sikkim (52%), Arunachal Pradesh (66%),

Meghalaya (51%) and Maharashtra (51%), a majority of daily tobacco users started using tobacco on a daily basis before attaining the age of 18. Even in Odisha, Nagaland and Goa, the mean age at initiation of daily tobacco use is lower than 18 years.

**Table 4.9:** Percent distribution of ever daily tobacco users aged 20-34 by age at tobacco use initiation according to states/UTs, GATS 2 India, 2016-17

State/UT	Age at tobacco product initiation				Total	Mean age
	<15	15-17	18-19	20-34		
India	12.2	23.6	19.4	44.7	100	18.7
Jammu & Kashmir	12.1	35.6	20.9	31.4	100	18.0
Himachal Pradesh	3.1	14.0	22.0	61.0	100	20.2
Punjab	1.4	28.6	18.7	51.3	100	19.9
Chandigarh	12.9	19.8	9.9	57.5	100	18.9
Uttarakhand	4.4	23.2	25.9	46.6	100	20.0
Haryana	5.4	22.1	32.5	40.1	100	19.3
Delhi	12.9	24.9	24.7	37.6	100	18.3
Rajasthan	12.8	24.9	19.0	43.2	100	18.4
Uttar Pradesh	13.5	25.5	18.1	43.0	100	18.7
Chhattisgarh	7.3	29.0	28.4	35.3	100	18.5
Madhya Pradesh	13.7	26.2	17.1	43.0	100	18.3
West Bengal	9.6	16.8	19.8	53.8	100	19.4
Jharkhand	6.7	19.2	26.2	47.9	100	19.4
Odisha	22.1	25.8	17.3	34.7	100	17.4
Bihar	6.6	24.0	27.4	42.0	100	18.9
Sikkim	32.2	20.0	19.8	28.1	100	15.9
Arunachal Pradesh	25.1	41.2	15.3	18.4	100	16.2
Nagaland	13.4	31.7	24.7	30.2	100	17.2
Manipur	3.1	16.6	20.2	60.2	100	20.8
Mizoram	11.9	34.3	25.1	28.7	100	17.8
Tripura	8.5	22.4	15.0	54.2	100	19.5
Meghalaya	8.8	41.8	25.1	24.3	100	17.5
Assam	13.1	28.3	20.2	38.5	100	18.5
Gujarat	11.9	22.9	16.6	48.6	100	18.6
Maharashtra	21.0	30.0	14.9	34.2	100	17.4
Goa	23.1	24.7	15.3	36.9	100	17.5
Andhra Pradesh	10.8	17.4	12.4	59.4	100	19.4
Telangana	7.6	22.8	3.5	66.1	100	19.9
Karnataka	13.0	9.4	21.0	56.5	100	19.8
Kerala	8.9	8.4	15.3	67.5	100	20.8
Tamil Nadu	3.6	12.9	15.8	67.7	100	20.6
Puducherry	13.4	16.1	12.4	58.1	100	19.3

## 4.1.8 Time to first tobacco use of the day

This section presents one more important dimension of tobacco use, viz. the timing of the first use of tobacco during the day. The timing of first use of tobacco after waking up indicates the level of an individual's dependence on nicotine. Table 4.10 presents the distribution of daily tobacco users classified by timing of first use of tobacco in the day.

About one in five (18%) daily tobacco users resort to tobacco use immediately or within five minutes

of waking up; another 41 percent use it after five minutes but within 30 minutes; 20 percent use it within half an hour to an hour of waking up; and the remaining 22 percent make the first use of tobacco in the day more than an hour after waking up. Overall, 59 percent of daily tobacco users are so addicted to tobacco that they resort to tobacco use within half an hour of getting up from bed, and 78 percent of all the daily tobacco users use it within the first hour after waking up. It may be noted that the time taken for the first use of tobacco of the day could also depend on the type of tobacco product in use and its easy availability at home.

**Table 4.10:** Percent distribution of daily tobacco users<sup>1</sup> aged 15 or above by time in minutes to first tobacco use after waking up, according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	Time to first smoke or use of smokeless tobacco				Total
	≤5 minutes	6-30 minutes	31-60 minutes	≥60 minutes	
<b>Overall</b>	17.7	40.8	19.6	21.9	100
<b>Age</b>					
15-24	8.4	36.8	22.0	32.9	100
25-44	17.3	41.4	19.3	22.0	100
45-64	20.2	41.7	18.5	19.6	100
65+	19.3	39.4	21.5	19.8	100
<b>Gender</b>					
Men	17.1	41.9	19.7	21.3	100
Women	19.5	37.4	19.1	24.0	100
<b>Residence</b>					
Urban	17.7	40.3	20.0	21.9	100
Rural	17.7	41.0	19.4	21.9	100
<b>Education level</b>					
No formal schooling	21.9	39.2	19.8	19.2	100
Less than primary	19.5	41.8	18.4	20.3	100
Primary but less than secondary	15.1	42.6	19.5	22.8	100
Secondary and above	11.8	40.5	20.1	27.6	100
<b>Occupation</b>					
Government and non-government employee	14.8	44.3	17.8	23.1	100
Self employed	18.2	41.3	20.0	20.5	100
Student	2.6	33.9	17.4	46.1	100
Home maker	17.3	37.0	19.4	26.2	100
Retired or unemployed	19.7	39.6	19.3	21.4	100

**Note:** 1 Includes smokers as well as users of smokeless tobacco.

The proportion of daily tobacco users who use tobacco within half an hour after waking up is slightly higher among men than women, though the difference is not very large. This indicates high levels of nicotine dependence among men as well as women and urban as well as rural residents. The proportion of daily tobacco users who use tobacco within half an hour of waking up increases with increasing age and decreases with increasing level of education. The proportion of daily tobacco users who use tobacco within half an hour of waking up increases from 45 percent among tobacco users aged 15-24 years to 62 percent among those aged 45-64 years; it rises to 59 percent among those aged 65 years or above. Sixty-one percent of daily tobacco users with no education use tobacco within half an hour of waking up, compared to 52 percent with

secondary or more education. Among the occupational categories, lesser proportion of students (36.5%) and home makers (54.3%) use tobacco within half an hour of waking up.

#### 4.1.9 Time to first tobacco use of the day by state/UT

Table 4.11 presents the distribution of daily first users of tobacco by the timing of first use according to respective states/UTs. In every state, more than one third of daily tobacco users make their first tobacco use of the day within half an hour of waking up. In Chandigarh, Uttarakhand, Uttar Pradesh, Jharkhand, Mizoram, Maharashtra, Goa, Andhra Pradesh, Kerala and Puducherry, one-fifth or more of tobacco users make the first tobacco use of the day immediately (within five minutes) of waking up.

**Table 4.11:** Percent distribution of daily tobacco users<sup>1</sup> aged 15 or above by time in minutes to first tobacco use after waking up among daily smokers and users of smokeless tobacco by states/UTs, GATS 2 India, 2016-17

State/UT	Time to first smoke or first use of smokeless tobacco				Total
	≤5 minutes	6-30 minutes	31-60 minutes	≥60 minutes	
India	17.7	40.8	19.6	21.9	100
Jammu & Kashmir	15.9	44.9	25.3	13.9	100
Himachal Pradesh	7.1	43.9	15.8	33.3	100
Punjab	12.2	54.2	16.0	17.5	100
Chandigarh	20.1	46.5	16.0	17.4	100
Uttarakhand	23.4	32.9	15.3	28.4	100
Haryana	13.5	40.1	23.7	22.6	100
Delhi	18.9	45.0	17.7	18.4	100
Rajasthan	14.1	31.8	19.3	34.8	100
Uttar Pradesh	19.9	40.2	16.3	23.7	100
Chhattisgarh	14.8	43.6	22.6	19.0	100
Madhya Pradesh	14.8	39.1	22.5	23.6	100
West Bengal	15.4	47.4	22.6	14.6	100
Jharkhand	32.5	44.3	13.3	10.0	100
Odisha	18.5	35.7	13.6	32.3	100
Bihar	16.8	36.0	22.1	25.1	100



State/UT	Time to first smoke or first use of smokeless tobacco				Total
	≤5 minutes	6-30 minutes	31-60 minutes	≥60 minutes	
Sikkim	19.3	54.5	19.0	7.2	100
Arunachal Pradesh	13.8	26.4	28.7	31.0	100
Nagaland	11.8	34.2	28.1	25.9	100
Manipur	7.1	28.7	23.1	41.1	100
Mizoram	24.2	41.1	19.5	15.1	100
Tripura	18.9	40.1	21.0	20.0	100
Meghalaya	6.2	29.5	36.9	27.4	100
Assam	11.4	39.3	21.1	28.2	100
Gujarat	17.8	41.3	27.5	13.4	100
Maharashtra	20.0	51.9	14.6	13.5	100
Goa	20.1	48.9	12.5	18.5	100
Andhra Pradesh	28.5	46.9	13.3	11.2	100
Telangana	17.9	39.2	23.8	19.1	100
Karnataka	10.8	24.7	26.8	37.7	100
Kerala	26.4	23.4	20.6	29.5	100
Tamil Nadu	14.8	44.9	22.2	18.1	100
Puducherry	21.3	32.1	20.1	26.5	100

Note: 1 Includes smokers as well as users of smokeless tobacco.

## 4.2 TOBACCO SMOKING

This section presents the findings on prevalence of tobacco smoking and its various dimensions. Tobacco smoking includes smoking any product containing tobacco or nicotine like *bidi*, manufactured cigarette, hand-rolled cigarette, pipe, cigar, *hukkah* (water pipe), as well as *chutta*, *dhumti*, *chillum* and electronic cigarettes.

### 4.2.1 Prevalence of tobacco smoking

The prevalence of smoking among adults in India is presented in Table 4.12. About one in every 10 adults (10.7%) in India currently smokes tobacco; 8.6 percent adults smoke tobacco daily, whereas 2.1 percent smoke only occasionally. The data implies that most of the current smokers (80%) smoke tobacco every day. Out of the 2.1 percent

of occasional tobacco smokers, one-fourth (0.5% of all adults) were former daily smokers but currently smoke only occasionally. Among the adult population, 89.3 percent are current non-smokers. About two percent of the current non-smokers (1.8% of all adults) were smoking daily sometime during their life. About one percent (1.3% of all adults) of current non-smokers were formerly smoking but only occasionally. In all, 13.9 percent adults in India are ever smokers and 86.1 percent are never smokers.

The prevalence of smoking is much higher among men (19.0%) than among women (2.0%). The prevalence of smoking is higher in rural areas (11.9%) than in urban areas (8.3%). Among men and women smokers and among smokers from both urban and rural areas, most (76-85%) of the current smokers are daily smokers.

**Table 4.12:** Percentage of adults aged 15 or above by detailed status of smoking, according to gender and residence, GATS 2 India, 2016-17

Status of smoking	Overall	Gender		Residence	
		Men	Women	Urban	Rural
<b>Current smoker</b>	10.7	19.0	2.0	8.3	11.9
Daily smoker	8.6	15.2	1.7	6.3	9.8
Occasional smoker	2.1	3.8	0.3	1.9	2.2
Occasional smoker, formerly daily	0.5	0.9	0.1	0.4	0.5
Occasional smoker, never daily	1.6	2.9	0.2	1.5	1.6
<b>Non-smoker</b>	89.3	81.0	98.0	91.7	88.1
Former daily smoker	1.8	3.2	0.4	1.5	2.0
Never daily smoker	87.5	77.7	97.7	90.2	86.0
Former occasional smoker	1.3	2.4	0.2	1.1	1.5
Never smoker	86.1	75.3	97.4	89.2	84.6

#### 4.2.2 Number of tobacco smokers

Table 4.13 presents the estimated number of smokers in India classified by residence and gender. As per GATS 2, the number of current smokers in India is 99.5 million adults (90.6 million men and 8.9 million women). Most of the current smokers are from rural areas (73.0 million) and remaining 26.6 million are from urban areas. A total of 80.1 million adults (72.5 million

males and 7.6 million females) smoke tobacco daily and an additional 19.4 million (18.1 million males and 1.4 million females) smoke tobacco occasionally. Of the total adult population of 932.5 million, 833.0 million adults do not smoke tobacco currently. However 29.7 million among them used to smoke formerly, either daily or occasionally. In other words, almost 129.2 million adult Indians are 'ever smokers'- i.e have smoked at some time in their life.

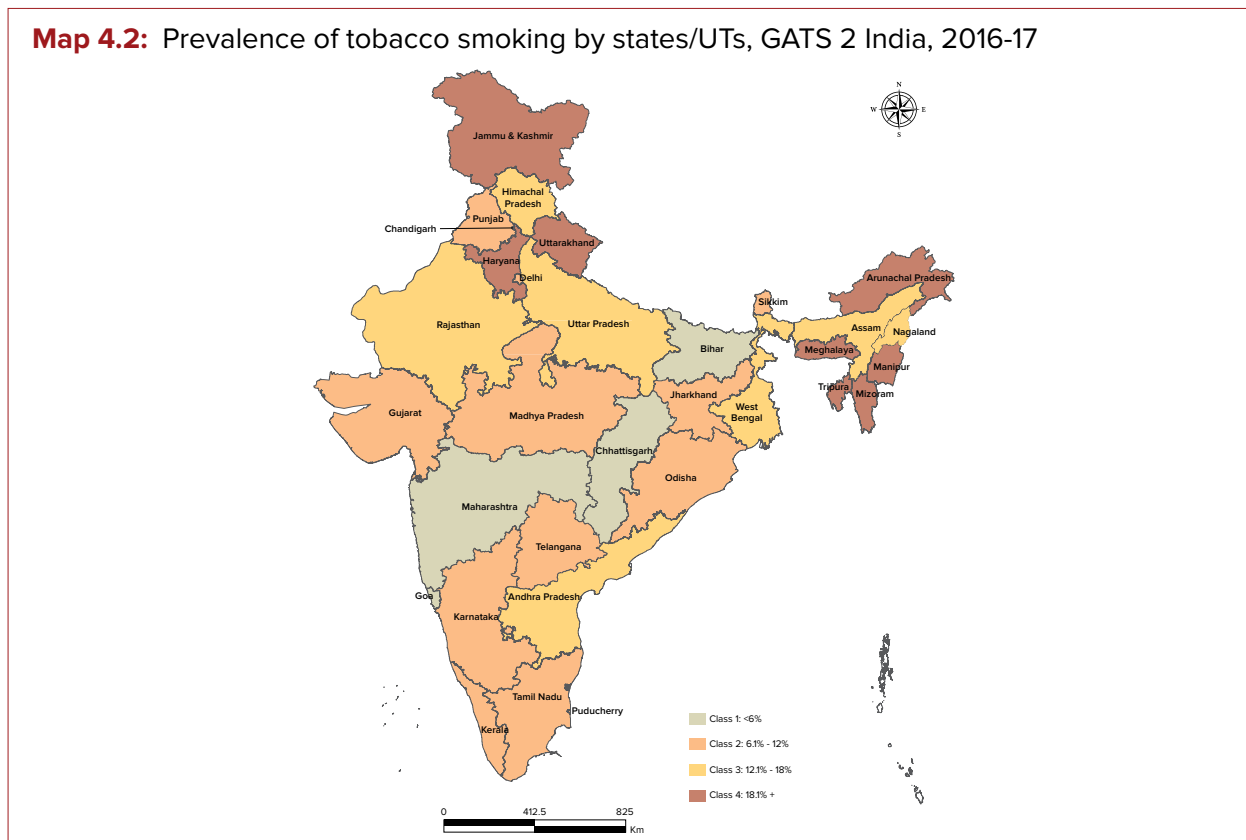
**Table 4.13:** Number of adults aged 15 or above by detailed status of smoking, according to residence and gender, GATS 2 India, 2016-17

*Number in thousands*

Status of smoking	Overall	Gender		Residence	
		Male	Female	Urban	Rural
<b>Overall</b>	932,488	476,499	455,989	321,648	610,839
<b>Current smoker</b>	99,522	90,585	8,937	26,565	72,957
Daily smoker	80,077	72,498	7,579	20,332	59,746
Occasional smoker	19,445	18,087	1,358	6,233	13,211
Occasional smoker, formerly daily	4,652	4,323	328	1,359	3,292
Occasional smoker, never daily	14,793	13,764	1,029	4,874	9,919
<b>Non-smoker</b>	832,966	385,914	447,052	295,084	537,882
Former daily smoker	17,146	15,458	1,688	4,831	12,315
Never daily smoker	815,820	370,455	445,365	290,253	525,567
Former occasional smoker	12,559	11,459	1,101	3,499	9,060
Never smoker	803,261	358,997	444,264	286,754	516,507

### 4.2.3 Prevalence of tobacco smoking by state/UT

**Map 4.2:** Prevalence of tobacco smoking by states/UTs, GATS 2 India, 2016-17



**Figure 4.5:** Percentage of current tobacco smokers by states/UT, GATS 2 India, 2016-17

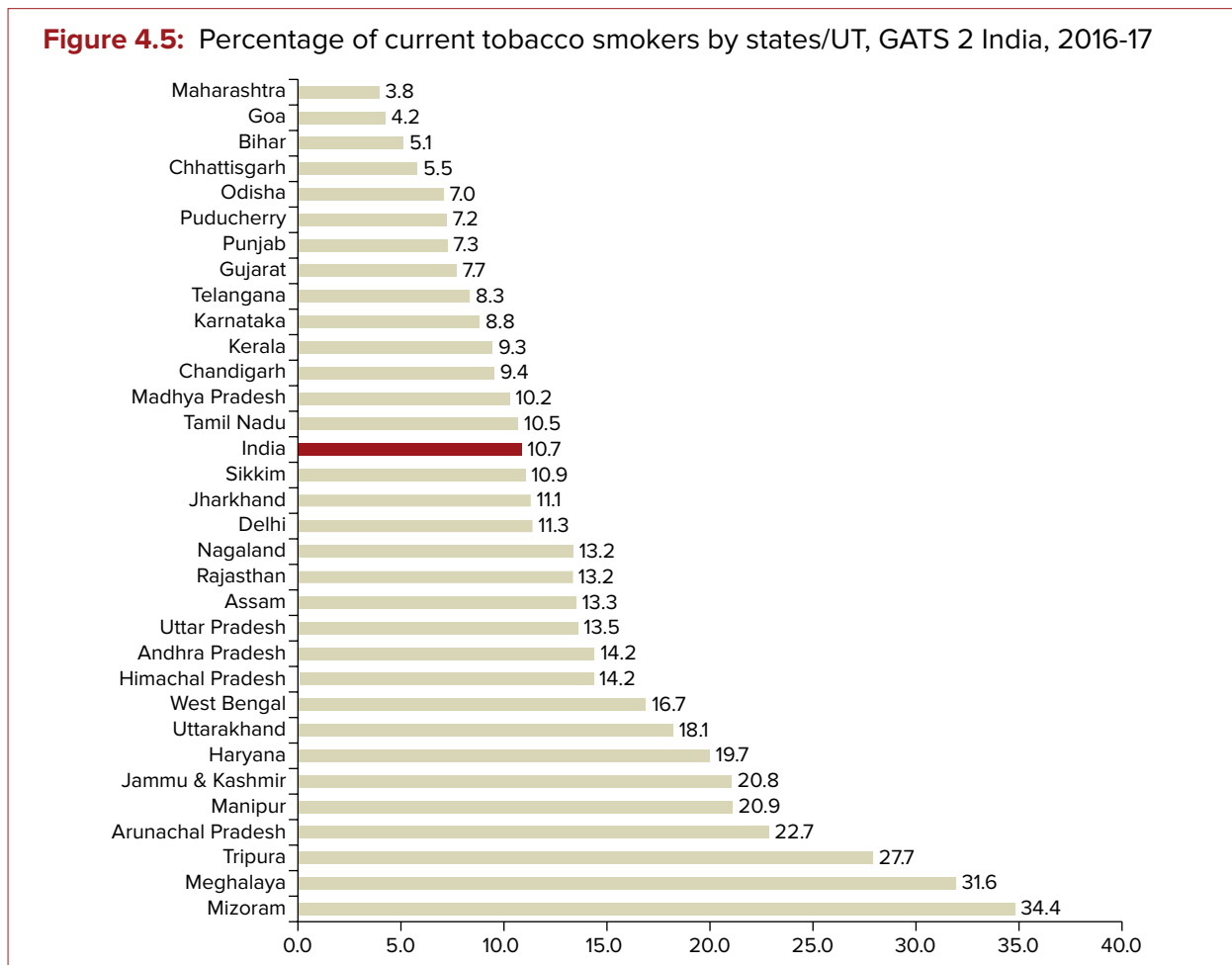


Table 4.14, Figure 4.5 and Map 4.2 present the state/UT wise distribution of prevalence of tobacco smoking among the adult population, among men and women. The figures vary substantially across states/UTs. It ranges from 3.8 percent in Maharashtra to 34.4 percent in Mizoram. In all the states from the north and north-eastern part of India (except Punjab and Chandigarh), prevalence of smoking is higher than the national average. All the top five states with respect to prevalence of smoking are in

the north-east (Mizoram 34.4%, Meghalaya 31.6%, Tripura 27.7%, Arunachal Pradesh 22.7% and Manipur 20.9%). However, these are smaller states in terms of population size. All north-eastern states (excluding Assam) together account for less than three percent of total tobacco smokers in India.

On the other hand, Uttar Pradesh, the most populous state in India, alone accounts for 20 percent of all the smokers in the country. The

**Table 4.14:** Percentage of adults aged 15 or above who currently smoke tobacco by states/UTs according to gender, GATS 2 India, 2016-17

State/ UT	Current smokers		
	Total	Male	Female
India	10.7	19.0	2.0
Jammu & Kashmir	20.8	35.2	5.1
Himachal Pradesh	14.2	26.7	1.6
Punjab	7.3	13.6	0.4
Chandigarh	9.4	16.2	0.9
Uttarakhand	18.1	29.8	6.3
Haryana	19.7	33.1	4.8
Delhi	11.3	19.4	1.8
Rajasthan	13.2	22.2	3.7
Uttar Pradesh	13.5	23.1	3.2
Chhattisgarh	5.5	10.8	0.1
Madhya Pradesh	10.2	19.0	0.8
West Bengal	16.7	31.7	0.9
Jharkhand	11.1	20.3	1.6
Odisha	7.0	13.9	0.1
Bihar	5.1	6.6	3.4
Sikkim	10.9	17.4	3.6
Arunachal Pradesh	22.7	38.7	5.4
Nagaland	13.2	25.0	0.5
Manipur	20.9	35.9	6.0
Mizoram	34.4	54.1	14.3
Tripura	27.7	44.4	10.3
Meghalaya	31.6	53.7	9.5
Assam	13.3	25.3	0.8
Gujarat	7.7	14.2	0.7
Maharashtra	3.8	6.0	1.4
Goa	4.2	7.9	0.4

State/ UT	Current smokers		
	Total	Male	Female
Andhra Pradesh	14.2	24.0	4.6
Telangana	8.3	15.3	1.4
Karnataka	8.8	16.8	0.7
Kerala	9.3	19.6	0.2
Tamil Nadu	10.5	21.1	0.1
Puducherry	7.2	14.7	0.1

two large states of Uttar Pradesh and West Bengal together account for about one-third (32%) of all smokers.

Following Table 4.15 presents state/UT level variation in tobacco smoking among men and women.

**Table 4.15:** Classification of states/ UTs according to prevalence of smoking tobacco use among men/ women, GATS 2 India, 2016-17.

Smokeless tobacco prevalence %	Total	Men	Women
Less than 5%	Maharashtra, Goa		Chhattisgarh, Odisha, Puducherry, Tamil Nadu, Kerala, Goa, Punjab, Nagaland, Gujarat, Karnataka, Madhya Pradesh, Assam, Chandigarh, West Bengal, Maharashtra, Telangana, Jharkhand, Himachal Pradesh, Delhi, Uttar Pradesh, Bihar, Sikkim, Rajasthan, Andhra Pradesh, Haryana
5%-10%	Bihar, Chhattisgarh, Odisha, Puducherry, Punjab, Gujarat, Telangana, Karnataka, Kerala Chandigarh	Maharashtra, Bihar, Goa	Jammu & Kashmir, Arunachal Pradesh, Manipur, Uttarakhand, Meghalaya
10%-20%	Madhya Pradesh, Tamil Nadu, Sikkim, Jharkhand, Delhi, Nagaland, Rajasthan, Assam, Uttar Pradesh, Andhra Pradesh, Himachal Pradesh, West Bengal, Uttarakhand, Haryana	Chhattisgarh, Punjab, Odisha, Gujarat, Puducherry, Telangana, Chandigarh, Karnataka, Sikkim, Madhya Pradesh, Delhi, Kerala	Tripura, Mizoram
20%-30%	Jammu & Kashmir, Manipur, Arunachal Pradesh, Tripura	Jharkhand, Tamil Nadu, Rajasthan, Uttar Pradesh, Andhra Pradesh, Nagaland, Assam, Himachal Pradesh, Uttarakhand	
30%-40%	Meghalaya, Mizoram	West Bengal, Haryana, Jammu & Kashmir, Manipur, Arunachal Pradesh	
40%-50%		Tripura	
50% and above		Meghalaya, Mizoram	

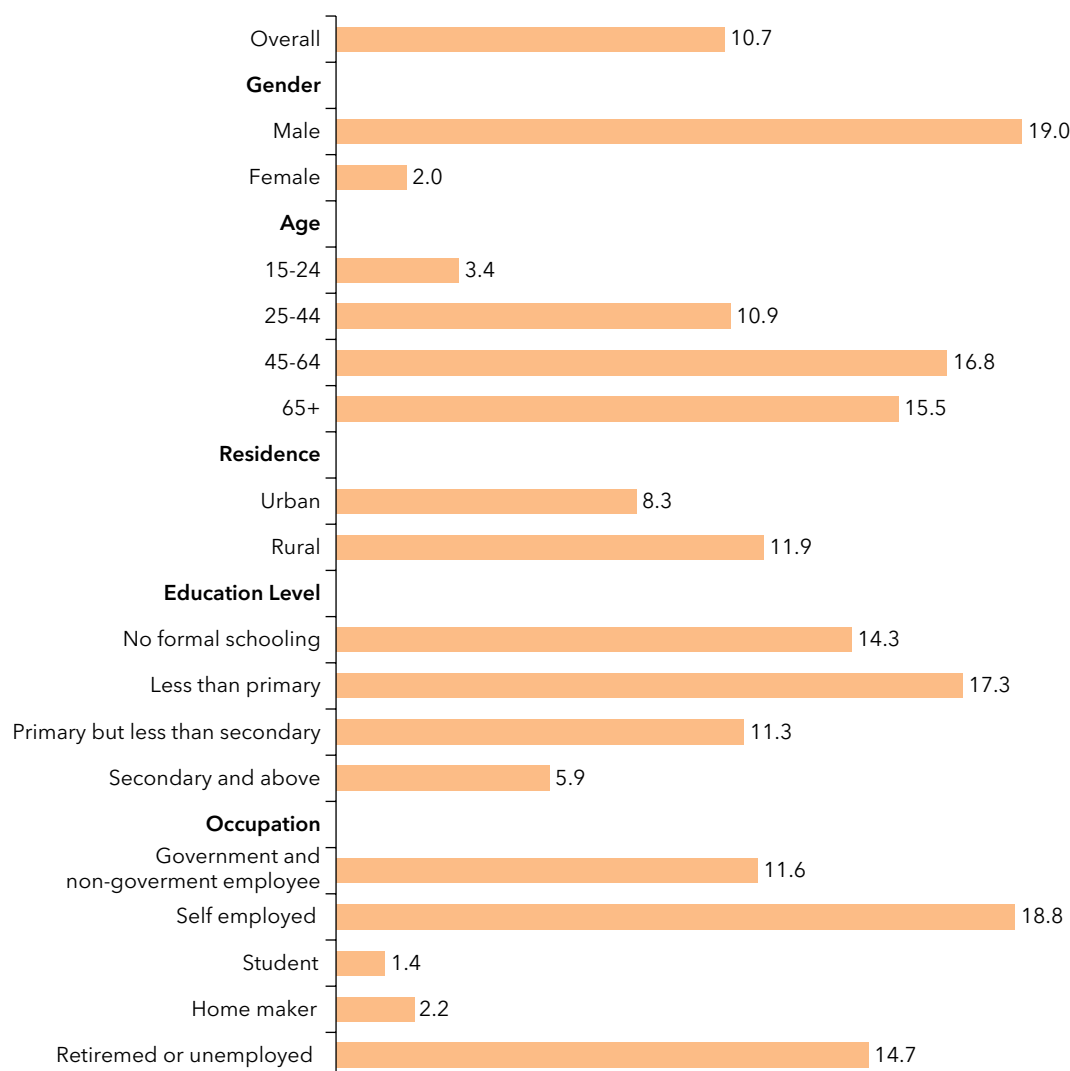
#### 4.2.4 Prevalence of various tobacco smoking products and variations by background characteristics

Differentials in the prevalence of smoking by select categories are shown in Table 4.16 and Figure 4.6. Appendix Table A-4.9 shows the prevalence of use of various smoked tobacco products according to gender. Differentials in the prevalence of smoking among adults according to place of residence, age, education level and occupation are almost similar to the differentials in tobacco use. Among men as well

as women, prevalence of smoking is higher in rural than urban areas. There is an increase in the prevalence of smoking with increase in age; however, after age 65, prevalence of smoking among men registers a slight drop.

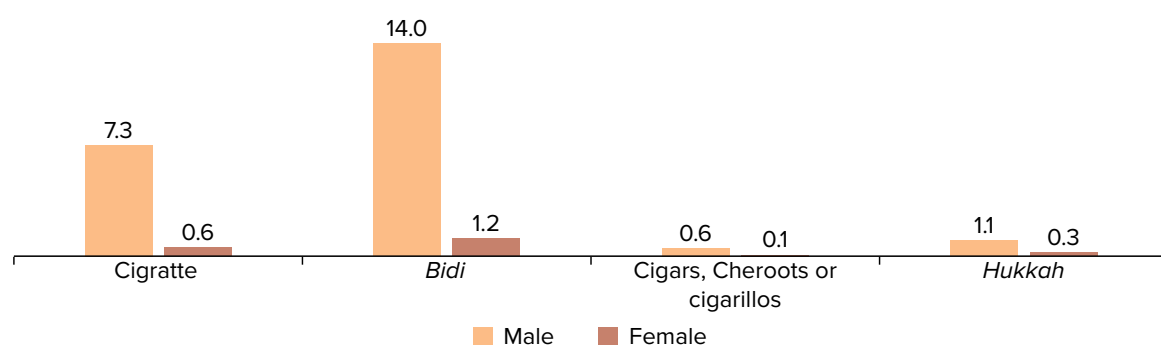
The relationship between level of education and prevalence of smoking is inverse for men as well as women. Prevalence of smoking is high among self-employed and retired/unemployed adult men and women. Almost every fifth (18.8%) self-employed adult and 14.7 percent retired/unemployed adults currently smoke tobacco. Prevalence of smoking is much lower among students (1.4%) and home makers (2.2%).

**Figure 4.6:** Percentage of current tobacco smokers by background characteristics, GATS 2 India, 2016-17

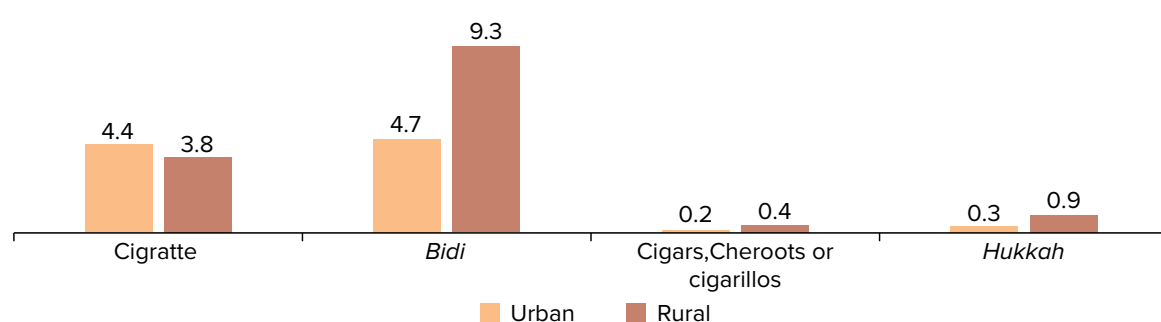




**Figure 4.7:** Percentage of adults aged 15 or above who are current smokers of various smoked products by gender, GATS 2 India, 2016-17



**Figure 4.8:** Percentage of adults aged 15 or above who are current smokers of various smoked products by residence, GATS 2 India, 2016-17



**Table 4.16:** Percentage of adults aged 15 or above who are current smokers of various smoked tobacco products according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Any smoked tobacco product	Any cigarette <sup>1</sup>	Bidi	Cigars, cheroots or cigarillos	Hukkah	Other smoked tobacco
<b>Overall</b>	10.7	4.0	7.7	0.3	0.7	0.1
<b>Age</b>						
15-24	3.4	2.1	1.7	0.1	0.1	0.1
25-44	10.9	4.8	7.7	0.3	0.5	0.1
45-64	16.8	5.0	13.1	0.4	1.3	0.2
65+	15.5	3.6	12.1	0.6	1.7	0.3
<b>Gender</b>						
Men	19.0	7.3	14.0	0.6	1.1	0.2
Women	2.0	0.6	1.2	0.1	0.3	0.1
<b>Residence</b>						
Urban	8.3	4.4	4.7	0.2	0.3	0.1
Rural	11.9	3.8	9.3	0.4	0.9	0.2
<b>Education level</b>						
No formal schooling	14.3	3.6	11.3	0.3	1.3	0.2

Background characteristic	Any smoked tobacco product	Any cigarette <sup>1</sup>	<i>Bidi</i>	Cigars, cheroots or cigarillos	<i>Hukkah</i>	Other smoked tobacco
Less than primary	17.3	5.6	14.1	0.5	0.6	0.1
Primary but less than secondary	11.3	4.3	8.5	0.3	0.6	0.2
Secondary and above	5.9	3.7	2.8	0.2	0.4	0.0
Occupation						
Government and non-government employee	11.6	6.8	6.6	0.3	0.4	0.1
Self employed	18.8	6.7	14.3	0.5	1.1	0.2
Student	1.4	1.2	0.2	0.0	0.1	0.0
Home maker	2.2	0.6	1.5	0.1	0.3	0.0
Retired or unemployed	14.7	3.8	11.2	0.6	1.9	0.2

Note: 1 Includes manufactured cigarettes and tobacco rolled in paper or leaf.

Table 4.16 also shows the prevalence of different smoking products, and their variation according to background characteristics of users. This is also shown in Figures 4.7 and 4.8. Appendix Table A-4.9 presents the differentials in prevalence of various smoking products by background characteristics, separately for men and women.

*Bidi* is the most commonly used smoking product in India, followed by the cigarette. While 7.7 percent Indian adults smoke *bidis*, 4.0 percent smoke cigarettes. Less than one percent adults smoke other tobacco products like, *hukkah* (0.7%) and, cigars/*cheroots*/cigarillos (0.3%). The sum of the prevalence of different smoking tobacco products (12.9%) is higher than the prevalence of smoking (10.7%), indicating that smokers in India smoke multiple tobacco products.

There is slight variation in the most commonly smoked tobacco product across categories defined by age, residence, education level and occupation. Among adults aged 15-24 years, cigarette (2.1%) is the most commonly smoked, product followed by *bidi* (1.7%). In all other age-groups, *bidi* is the most commonly smoked product. In urban as well as rural areas, *bidi* is the most commonly smoked product. Prevalence of *bidi* smoking is almost double in rural areas

(9.3%) as compared to urban areas (4.7%). In contrast, prevalence of smoking cigarettes is higher in urban areas (4.4%) compared to that in rural areas (3.8%). Prevalence of smoking *hukkah* is higher in rural (0.9%) than in urban areas (0.3%). In all educational groups except secondary or higher education, *bidi* is the most commonly smoked product. Among the adults with secondary or higher education, cigarette is the most commonly smoked product (3.7%). The proportion of government and non-government employees who smoke cigarette (6.8%) and *bidi* (6.6%) is almost equal. Among the self-employed, home makers and retired/ unemployed adults, *bidi* is the most commonly smoked tobacco product. Prevalence of smoking is quite low among students, and students prefer smoking cigarette (1.2%). More than 10 percent of self-employed (14.3%) and retired/ unemployed (11.2%) adults smoke *bidi*.

#### 4.2.5 Number of users of various tobacco smoking products

Table 4.17 shows the estimated number of adults in India who smoke a particular type of tobacco product by gender and residence. Of the 99.5 million smokers in India, 71.8 million smoke *bidi* and 37.5 million smoke cigarettes. Of the *bidi* smokers, majority are men (66.6 million)

and majority live in rural areas (56.8 million). Of all the cigarette smokers, most are men (34.9 million). Although prevalence of cigarette smoking is higher in urban than rural areas, majority of cigarette smokers are in rural areas (23.3 million) due to higher population in rural areas.

#### 4.2.6 Prevalence of various tobacco smoking products by state/UT

The state/UT level variation in the prevalence of various smoking products among the population is presented in Tables 4.18. Appendix Tables A-4.10 and A-4.11 present the same information, separately for men and women.

In most states, *bidi* smoking is more prevalent than cigarette smoking. However, in three north-eastern states (Manipur, Meghalaya and

Mizoram), and in Sikkim, Andhra Pradesh, Kerala and Jammu and Kashmir, cigarette smoking is more prevalent than *bidi* smoking. In Mizoram (29.1%), Meghalaya (23.4%) and Manipur (19.8%), one or more in every five adults smoke cigarette. In these three states, more than one-third of adult men smoke tobacco. Though the prevalence of cigarette smoking is much less among women, in Mizoram more than one in every eight (13.7%) women smoke cigarette. Prevalence of *bidi* smoking is highest in Tripura (19.3%), followed by Meghalaya (17.2%), Uttarakhand (15.7%), Haryana (15.5) and Arunachal Pradesh (14.8%).

*Hukkah* (water Pipe) smoking is prevalent mainly in Haryana (7.1%), Jammu and Kashmir (5.9%), Tripura (6.4%), Rajasthan (2.7%), and Meghalaya (2.4%). In Tripura, *hukkah* smoking is more prevalent among women (7.3%) than men (5.5%).

**Table 4.17:** Number of adults aged 15 or above who are current smokers of various smoking tobacco products, according to residence and gender, GATS 2 India, 2016-17

*Number in thousands*

	Overall	Gender		Residence	
		Men	Women	Urban	Rural
Current smoker	99,522	90,585	8,937	26,565	72,957
Cigarette	37,542	34,859	2,683	14,250	23,292
<i>Bidi</i>	71,836	66,579	5,257	15,030	56,806
Cigar	2,888	2,642	245	704	2,184
<i>Hukkah</i>	6,575	5,268	1,306	811	5,764
Other smoking products	1,272	906	366	300	972

**Table 4.18:** Percentage of adults aged 15 or above who are current smokers of various smoked tobacco products, by states/UTs, GATS 2 India, 2016-17

State/UT	Any smoked tobacco product	Any cigarette <sup>1</sup>	<i>Bidi</i>	Cigars, cheroots or cigarillos	<i>Hukkah</i>	Other smoked tobacco
India	10.7	4.0	7.7	0.3	0.7	0.1
Jammu & Kashmir	20.8	10.4	6.2	0.3	5.9	0.1
Himachal Pradesh	14.2	2.8	12.6	0.1	0.5	0.1
Punjab	7.3	1.7	5.9	0.0	0.1	0.0
Chandigarh	9.4	3.5	6.4	0.0	0.0	0.0

State/UT	Any smoked tobacco product	Any cigarette <sup>1</sup>	Bidi	Cigars, cheroots or cigarillos	Hukkah	Other smoked tobacco
Uttarakhand	18.1	4.9	15.7	0.0	1.8	0.3
Haryana	19.7	2.6	15.5	0.2	7.1	0.2
Delhi	11.3	4.9	8.2	0.0	0.4	0.0
Rajasthan	13.2	2.8	11.4	1.9	2.7	0.2
Uttar Pradesh	13.5	4.7	11.3	0.3	1.3	0.1
Chhattisgarh	5.5	1.8	4.1	0.0	0.0	0.1
Madhya Pradesh	10.2	1.3	9.1	0.4	0.1	0.3
West Bengal	16.7	5.2	14.4	0.6	0.2	0.1
Jharkhand	11.1	6.5	5.2	0.0	0.2	0.3
Odisha	7.0	3.5	4.4	0.1	0.0	0.1
Bihar	5.1	0.9	4.2	0.1	0.4	0.2
Sikkim	10.9	9.2	3.0	1.4	0.2	0.1
Arunachal Pradesh	22.7	12.4	14.8	2.9	1.3	0.3
Nagaland	13.2	5.7	9.9	0.5	0.1	0.1
Manipur	20.9	19.8	4.3	0.9	0.4	0.4
Mizoram	34.4	29.1	1.5	0.9	1.2	4.3
Tripura	27.7	8.7	19.3	0.6	6.4	0.1
Meghalaya	31.6	23.4	17.2	2.3	2.4	1.5
Assam	13.3	6.1	8.6	0.3	0.3	0.3
Gujarat	7.7	1.2	6.4	0.2	0.2	0.0
Maharashtra	3.8	1.9	1.9	0.1	0.0	0.2
Goa	4.2	2.6	2.1	1.0	0.1	0.1
Andhra Pradesh	14.2	9.0	6.2	0.1	0.0	0.0
Telangana	8.3	4.1	4.9	0.1	0.0	0.0
Karnataka	8.8	4.4	5.9	0.1	0.3	0.2
Kerala	9.3	6.7	3.8	0.1	0.1	0.0
Tamil Nadu	10.5	6.3	5.4	0.2	0.0	0.0
Puducherry	7.2	5.2	2.2	0.1	0.0	0.1

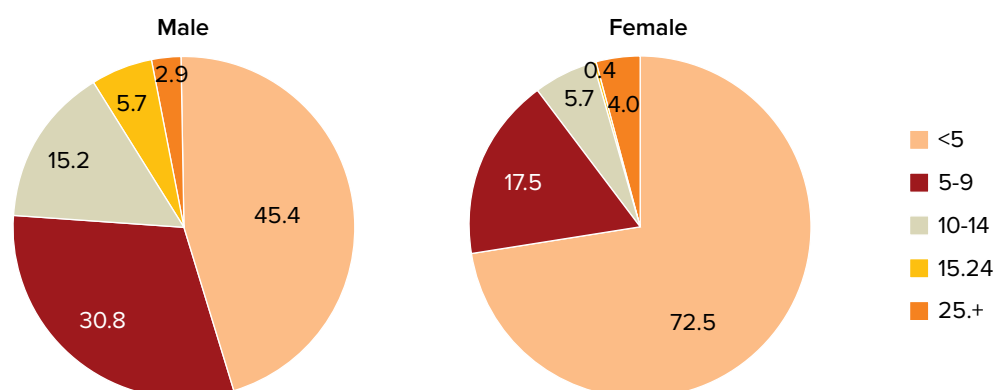
Note: 1 Includes manufactured cigarettes and rolled tobacco in paper or leaf.

#### 4.2.7 Number of cigarettes smoked per day

The daily frequency of smoking (or the number of cigarettes or *bidis* smoked every day) is an important dimension of tobacco smoking; it reflects the level of addiction. Table 4.19 and Appendix Table A-4.12 and Figure 4.9 present the percent distribution of daily cigarette smokers

classified by number of cigarettes smoked every day. A typical daily cigarette smoker in India smokes an average of 6.8 cigarette sticks every day. About half of all cigarette smokers smoke less than five cigarettes a day; 30 percent smoke 5-9 cigarettes; 14 percent smoke 10-14 cigarettes; 5 percent smoke 15-24 cigarettes and about 3 percent smoke more than 25 cigarettes per day.

**Figure 4.9:** Percent distribution of daily cigarette smokers by number of cigarettes smoked per day, according to gender, GATS 2 India, 2016-17



**Table 4.19:** Percent distribution of current daily cigarette smokers aged 15 or above by the number of cigarettes smoked on an average per day, according to background characteristics, GATS 2 India, 2016-17

Background Characteristics	Number of cigarettes smoked on average per day					Total	Mean number of cigarettes smoked per day
	<5	5-9	10-14	15-24	25+		
<b>Overall</b>	47.9	29.6	14.3	5.2	3.0	100	6.8
<b>Age</b>							
15-24	54.1	34.3	7.6	1.9	2.1	100	5.1
25-44	46.6	30.7	16.1	3.6	2.9	100	6.8
45-64	46.2	27.4	14.8	8.3	3.4	100	7.4
65+	52.7	26.7	11.1	6.1	3.3	100	6.5
<b>Gender</b>							
Men	45.4	30.8	15.2	5.7	2.9	100	7.0
Women	72.5	17.5	5.7	0.4	4.0	100	5.2
<b>Residence</b>							
Urban	44.2	32.2	16.5	5.0	2.0	100	6.3
Rural	50.6	27.6	12.6	5.4	3.8	100	7.2
<b>Education Level</b>							
No formal schooling	53.8	24.5	10.8	6.6	4.2	100	7.3
Less than primary	51.4	23.9	17.1	5.1	2.4	100	7.0
Primary but less than secondary	42.1	32.8	17.9	4.8	2.3	100	6.5
Secondary and above	47.1	32.4	12.9	4.6	2.9	100	6.6
<b>Occupation</b>							
Government and non-government employee	50.7	29.9	12.4	4.7	2.4	100	6.6
Self employed	47.1	28.2	15.8	5.7	3.2	100	7.0
Student	37.0	57.3	3.5	0.1	2.1	100	5.5
Home maker	47.0	30.3	14.9	3.3	4.5	100	6.8
Retired or unemployed	52.2	32.0	8.2	5.3	2.3	100	5.7

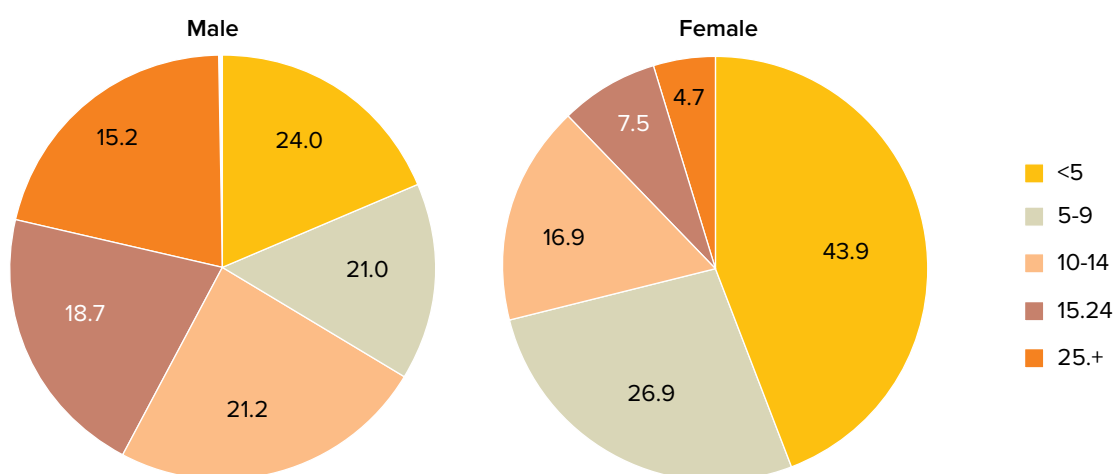
The frequency of cigarettes per day among male cigarette smokers (7.0) is higher than female smokers (5.2). The frequency of cigarettes per day among rural smokers (7.2) is higher than urban smokers (6.3). Although, prevalence of smoking is less among young adults (aged 15-24 years), mean number of cigarettes smoked by young adults is 5.1. The mean number of cigarettes smoked per day decreases with increase in level of education—from 7.3 cigarettes per day among those with no formal education to 6.5-6.6 cigarettes per day among those with primary or more education. The mean number of cigarettes smoked per day is higher among self-employed (7.0) cigarette smokers.

Variation in number of cigarettes smoked per day by daily cigarette smokers across the states and UTs is presented in Appendix Table A-4.13. The table on prevalence of smoking by state/UT has already shown relatively higher prevalence of cigarette smoking in Jammu & Kashmir, West Bengal, Sikkim, Tripura, Nagaland, Manipur, Mizoram and Meghalaya. In these states, the average number of cigarettes smoked per day is also quite high (7.5 or more).

#### 4.2.8 Number of *bidis* smoked per day

The percent distribution of daily *bidi* smokers by number of *bidis* smoked per day is shown in Table 4.20, Appendix Table A-4.14 and Figure 4.10. Less than half of all *bidi* smokers (47%) on an average smoke less than 10 *bidis* per day, whereas the remaining 53 percent smoke more than 10 *bidis* per day. A little more than 14 percent of all daily *bidi* smokers in India smoke an average of 25 *bidis* every day. The overall average is 15.1 *bidis* per day. Daily frequency of *bidi* smoking among male *bidi* smokers (15.6 sticks) is almost twice that for female smokers (7.8 sticks). Current daily *bidi* smokers in rural areas smoke on an average 15.3 *bidis* per day; in urban areas, this figure is lesser than that by one *bidi* (14.3). Prevalence of *bidi* smoking among young adults is low. However, average number of *bidi* sticks smoked by daily *bidi* smokers among young adults (aged 15-24 years) is 14.4 sticks. The number of *bidis* smoked per day by a daily *bidi* smoker decreases with education—from 16.0 *bidis* per day among those with no education to 12.0 among those with secondary or more education. The average number of *bidi* sticks smoked by a self-employed (16.2) daily *bidi* smoker is on higher side in comparison to adults from other occupational categories.

**Figure 4.10:** Percent distribution of daily *bidi* smokers by number of *bidis* smoked per day, according to gender, GATS 2 India, 2016-17



**Table 4.20:** Percent distribution of current daily *bidi* smokers aged 15 or above by the number of *bidi* smoked on an average per day, according to background characteristics, GATS 2 India, 2016-17

Background Characteristics	Number of <i>bidis</i> smoked on average per day					Total	Mean number of <i>bidis</i> smoked per day
	<5	5-9	10-14	15-24	25+		
<b>Overall</b>	25.4	21.4	20.9	17.9	14.4	100	15.1
<b>Age</b>							
15-24	23.2	31.1	15.3	14.7	15.7	100	14.4
25-44	25.3	20.2	21.1	16.8	16.6	100	16.0
45-64	22.8	21.7	21.0	20.5	14.1	100	15.5
65+	34.1	21.0	21.5	14.8	8.5	100	11.5
<b>Gender</b>							
Men	24.0	21.0	21.2	18.7	15.2	100	15.6
Women	43.9	26.9	16.9	7.5	4.7	100	7.8
<b>Residence</b>							
Urban	25.5	21.0	20.5	19.4	13.6	100	14.3
Rural	25.4	21.5	21.0	17.6	14.6	100	15.3
<b>Education Level</b>							
No formal schooling	28.2	18.7	20.5	18.4	14.1	100	16.0
Less than primary	24.6	20.5	17.4	18.7	18.9	100	14.9
Primary but less than secondary	23.1	24.0	22.0	16.6	14.3	100	15.4
Secondary and above	22.7	25.0	24.1	18.5	9.6	100	12.0
<b>Occupation</b>							
Government and non-government employee	28.1	20.0	19.0	16.8	16.1	100	12.5
Self employed	23.7	20.9	21.3	18.5	15.6	100	16.2
Student	9.0*	4.3*	22.1*	64.7*	0.0*	100	15.3*
Home maker	39.8	27.0	19.3	9.6	4.4	100	8.0
Retired or unemployed	28.1	23.9	19.9	18.4	9.8	100	12.8

Note: \* Based on less than 25 unweighted cases.

Variation in number of *bidis* smoked per day by daily *bidi* smokers across the states/ UTs is presented in Appendix Table A-4.15.

#### 4.2.9 Age at initiation of tobacco smoking

Table 4.21 presents the distribution of ever daily smokers aged 20-34 by age at the initiation of daily smoking. Of all daily smokers, 11 percent started smoking daily by the age of 15; 23 percent started when they were 15–17 years; 18 percent started smoking daily at age 18-19; and

the remaining 49 percent after the age of 20. In other words, one third of all daily smokers aged 20-34 had started smoking tobacco on a daily basis before attaining the age of 18, i.e. before they became major. The mean age at initiation of smoking is 18.9 years. The table shows male daily smokers start smoking at a much younger age compared to females. The mean age at initiation of smoking for female smokers is 21.2, as against 18.8 for males. The mean age at initiation of smoking among daily smokers from urban areas (19.0) is a little higher than that from rural areas (18.8).



**Table 4.21:** Percent distribution of ever daily smokers aged 20-34 by age at smoking initiation, according to selected background characteristics, GATS 2 India, 2016-17

Background Characteristics	Age at smoking initiation				Total	Mean age
	<15	15-17	18-19	20-34		
<b>Overall</b>	10.6	22.5	18.0	48.9	100	18.9
<b>Gender</b>						
Men	10.6	23.1	18.2	48.2	100	18.8
Women	11.6	8.8	13.2	66.4	100	21.2
<b>Residence</b>						
Urban	11.4	16.9	19.7	52.1	100	19.0
Rural	10.3	24.6	17.4	47.7	100	18.8
<b>Education Level</b>						
No formal schooling	14.0	20.6	13.7	51.6	100	18.6
Less than primary	10.8	22.2	23.2	43.8	100	19.0
Primary but less than secondary	11.9	26.8	18.5	42.8	100	18.4
Secondary and above	6.1	17.7	17.8	58.5	100	19.7
<b>Occupation</b>						
Government and non-government employee	4.8	23.7	14.2	57.3	100	19.7
Self employed	11.4	23.2	18.0	47.4	100	18.7
Student	1.0	20.9	44.5	33.7	100	19.0
Home maker	19.8	18.2	23.8	38.2	100	18.1
Retired or unemployed	15.4	8.8	18.4	57.4	100	19.2

#### 4.2.10 Prevalence of former daily smoking and quit ratio

This section discusses quit ratios or the extent to which daily smokers have quit tobacco smoking. Two types of ratios are defined: 1) the percentage of former daily smokers among all adults; 2) the percentage of former daily smokers among all ‘ever daily’ smokers. The term ‘ever daily’ smokers refers to those daily smokers who quit smoking successfully i.e. former daily smokers plus the current daily smokers. Table 4.22 presents these two types of quit ratios by background characteristics.

In India, about two percent of the adult population was formerly smoking tobacco every day but

has now stopped smoking completely. Since the majority of the Indian population does not smoke, the quit ratios – percentages of former daily smokers among ever daily smokers– are more relevant. The quit ratio for smoking is 16.8 percent, i.e. about one in every six ever daily smokers has stopped smoking completely. The quit ratio of smoking is highest among those with secondary and above education (20.7%). Quit ratio among young adults is 14.9 percent and that among those aged 65 and above is 31.2 percent. Quit ratios among employees and self-employed adults are much lower in comparison with those among home makers and retired/ unemployed adults. Five states—Chhattisgarh, Odisha, Bihar, Assam and Kerala—have quit ratios exceeding 20 percent (Appendix Table A-4.17).

**Table 4.22:** Percentage of adults aged 15 or above who were former daily smokers, and percentage of ever daily smokers who were former daily smokers by background characteristics, GATS 2 India, 2016-17

Background Characteristics	Former daily smokers <sup>1</sup> (Among all adults)	Former daily smokers <sup>1</sup> (Among ever daily smokers) <sup>2</sup>
Overall	1.8	16.8
<b>Age</b>		
15-24	0.3	14.9
25-44	0.9	9.5
45-64	3.4	18.2
65+	6.6	31.2
<b>Gender</b>		
Men	3.2	16.8
Women	0.4	17.6
<b>Residence</b>		
Urban	1.5	18.2
Rural	2.0	16.3
<b>Education Level</b>		
No formal schooling	2.4	15.5
Less than primary	2.8	15.9
Primary but less than secondary	1.9	16.5
Secondary and above	1.2	20.7
<b>Occupation</b>		
Government and non-government employee	1.5	14.2
Self employed	2.7	14.3
Student	0.1	15.8
Home maker	0.5	18.9
Retired or unemployed	6.7	33.3

Note: 1 Includes current non-smokers.

2 Also known as the quit ratio for daily smoking.

#### 4.2.11 Time since quitting tobacco smoking

One important dimension of quitting is the duration for which tobacco smokers can abstain from smoking, before relapsing. Many smokers try to quit repeatedly before they succeed, with some relapsing even after a lengthy period of abstinence. Table 4.23 presents the percent distribution of former daily smokers who have stopped smoking completely, according to the

duration (in years) since the time of quitting. About one in eight of former daily smokers have abstained from smoking for the last one year; about one fifth have quit for between one to five years; and two-thirds of former daily smokers have stopped smoking for five or more years.

Appendix Table A-4.18 gives the percent distribution of former daily smokers according to time since quitting smoking.

**Table 4.23:** Percent distribution of former daily smokers aged 15 or above by time since quitting smoking, according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	Time since quitting smoking (in years)				Total
	<1	1-4	5-9	10+	
<b>Overall</b>	12.1	21.7	20.0	46.1	100
<b>Gender</b>					
Male	10.9	20.9	20.4	47.8	100
Female	23.9	29.5	16.1	30.5	100
<b>Residence</b>					
Urban	13.1	19.1	22.3	45.5	100
Rural	11.8	22.8	19.1	46.4	100
<b>Education Level</b>					
No formal schooling	13.8	19.8	17.7	48.7	100
Less than primary	11.8	15.3	17.2	55.7	100
Primary but less than secondary	12.4	23.9	21.4	42.3	100
Secondary and above	9.6	25.7	23.4	41.3	100
<b>Occupation</b>					
Government and non-government employee	10.7	28.9	17.4	43.0	100
Self employed	12.4	22.0	19.7	45.9	100
Student	45.5*	52.9*	1.6*	0.0*	100
Home maker	17.3	25.5	19.0	38.3	100
Retired or unemployed	9.3	15.8	22.7	52.2	100

Note: \*Based on less than 25 unweighted cases.

## 4.3 SMOKELESS TOBACCO

This section presents the prevalence of smokeless tobacco use and its different dimensions. Smokeless tobacco includes products such as tobacco leaves, *khaini* or tobacco lime mixture, *paan masala* with tobacco, *sada/surti*, *gutka*, *mawa*, betel quid with tobacco; and other products like *mishri*, *gul*, *bajjar*, *gudakhu*, which are applied to the teeth and gums; or as snuff which is inhaled.

### 4.3.1 Prevalence of use of smokeless tobacco

Table 4.24 presents prevalence of smokeless tobacco in India by gender and place of residence. The prevalence of smokeless

tobacco use (21.4%) is more than twice that of smoking (10.7%). Of the 21.4 percent of all adults who use smokeless tobacco, 85 percent (18.2% of all adults) use smokeless tobacco every day, and the remaining 15 percent (3.1% of all adults) use it occasionally. Two percent of the adults, who were using smokeless tobacco in the past, either daily (1.2%) or occasionally (0.8%), have stopped its use completely. The extent of use of smokeless tobacco among men (29.6%) is higher than among women (12.8%). In rural areas, 24.6 percent adults use smokeless tobacco, whereas in urban areas, 15.2 percent use smokeless tobacco. In each category of adults, either by residence or gender, 84-87 percent of the current smokeless tobacco users use it every day.

**Table 4.24:** Percentage of adults aged 15 or above by detailed status of use of smokeless tobacco, according to gender and residence, GATS 2 India, 2016-17

Status of use of smokeless tobacco	Overall	Gender		Residence	
		Men	Women	Urban	Rural
<b>Current user of smokeless tobacco</b>	21.4	29.6	12.8	15.2	24.6
Daily	18.2	25.1	11.1	12.8	21.1
Occasional user	3.1	4.5	1.7	2.5	3.5
Occasional user, former daily	0.8	1.0	0.5	0.6	0.8
Occasional user, never daily	2.4	3.5	1.2	1.8	2.7
<b>Non-user of smokeless tobacco</b>	78.6	70.4	87.2	84.8	75.4
Former daily user	1.2	1.4	0.9	1.0	1.2
Never daily user	77.5	68.9	86.4	83.7	74.2
Former occasional user	0.8	1.2	0.4	0.8	0.9
Never user	76.6	67.7	85.9	83.0	73.3

### 4.3.2 Number of users of smokeless tobacco

The estimated number of current adult smokeless tobacco users in India is 199.4 million, twice that of current tobacco smokers (99.5 million). The number of male smokeless

tobacco users (141.2 million) is more than twice that of female smokeless tobacco users (58.2 million). Similarly, the number of smokeless tobacco users in rural areas (150.3 million) is about three times that in urban areas (49.0 million).

**Table 4.25:** Number of adults aged 15 or above by detailed status of use of smokeless tobacco, according to gender and residence, GATS 2 India, 2016-17

*Numbers in thousands*

Status of use of smokeless tobacco	Overall	Gender		Residence	
		Male	Female	Urban	Rural
<b>Total</b>	932,488	476,499	455,989	321,648	610,839
<b>Current user of smokeless tobacco</b>	199,388	141,183	58,206	49,050	150,338
Daily	170,098	119,540	50,558	41,110	128,988
Occasional user	29,290	21,643	7,648	7,940	21,351
Occasional user, former daily	7,103	4,977	2,127	1,996	5,107
Occasional user, never daily	22,187	16,666	5,521	5,944	16,243
<b>Non-user of smokeless tobacco</b>	733,099	335,316	397,783	272,598	460,501
Former daily user	10,820	6,863	3,957	3,279	7,542
Never daily user	722,279	328,453	393,826	269,320	452,959
Former occasional user	7,675	5,691	1,984	2,439	5,236
Never user	714,604	322,762	391,842	266,881	447,723

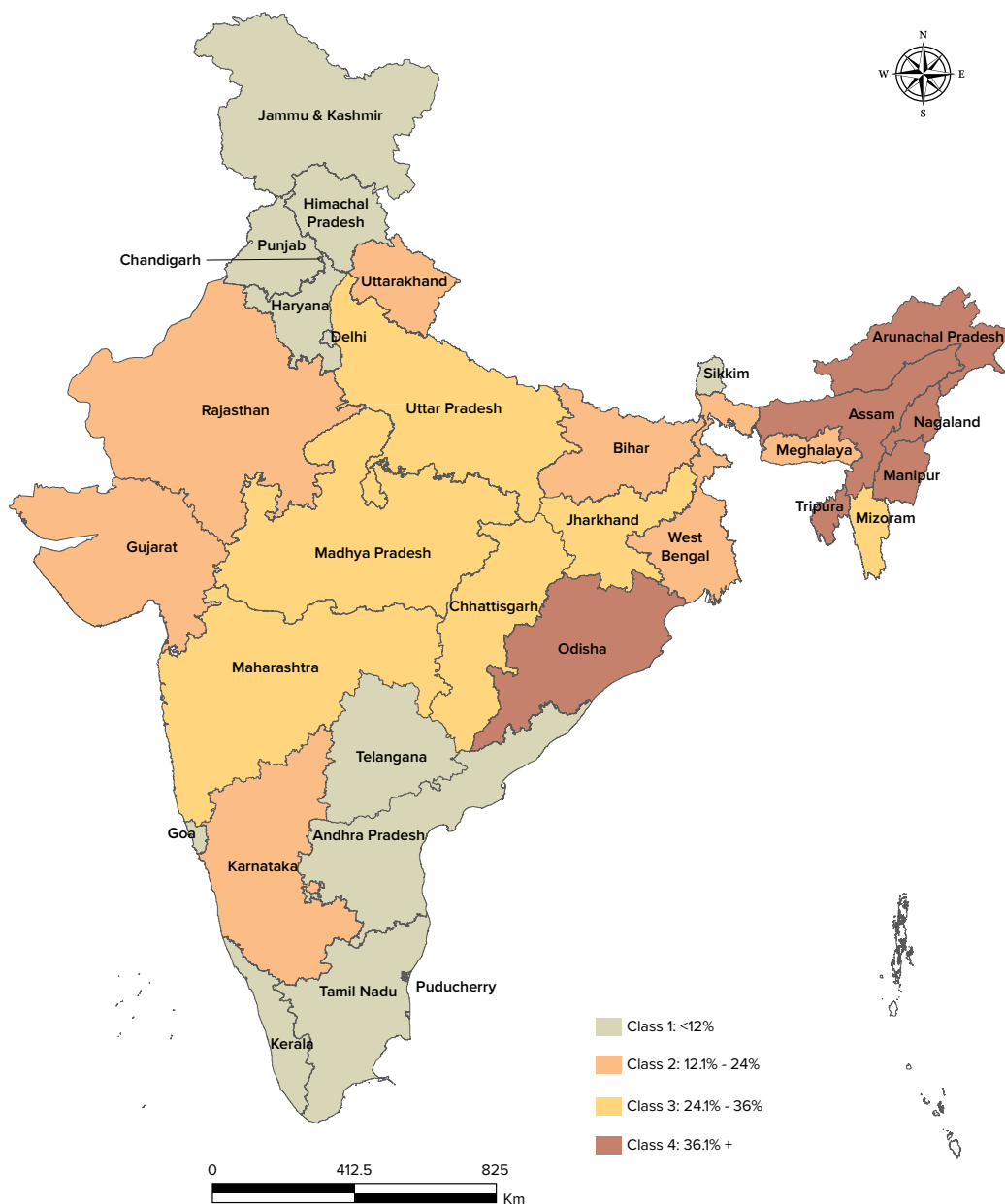
Among all adults, 170.1 million (119.5 million males and 50.6 million females) use smokeless tobacco every day, and 29.3 million adults (21.6 million males and 7.6 million females) use smokeless tobacco occasionally. A little more than 18 million adults who were formerly using smokeless tobacco either daily (10.8 million) or occasionally (7.7 million) have stopped its use completely. Currently, 733.1 million adults aged 15 or above do not use smokeless tobacco; among them, 714.6 million adults have never used smokeless tobacco in their lifetime.

### 4.3.3 Prevalence of use of smokeless tobacco by state/UT

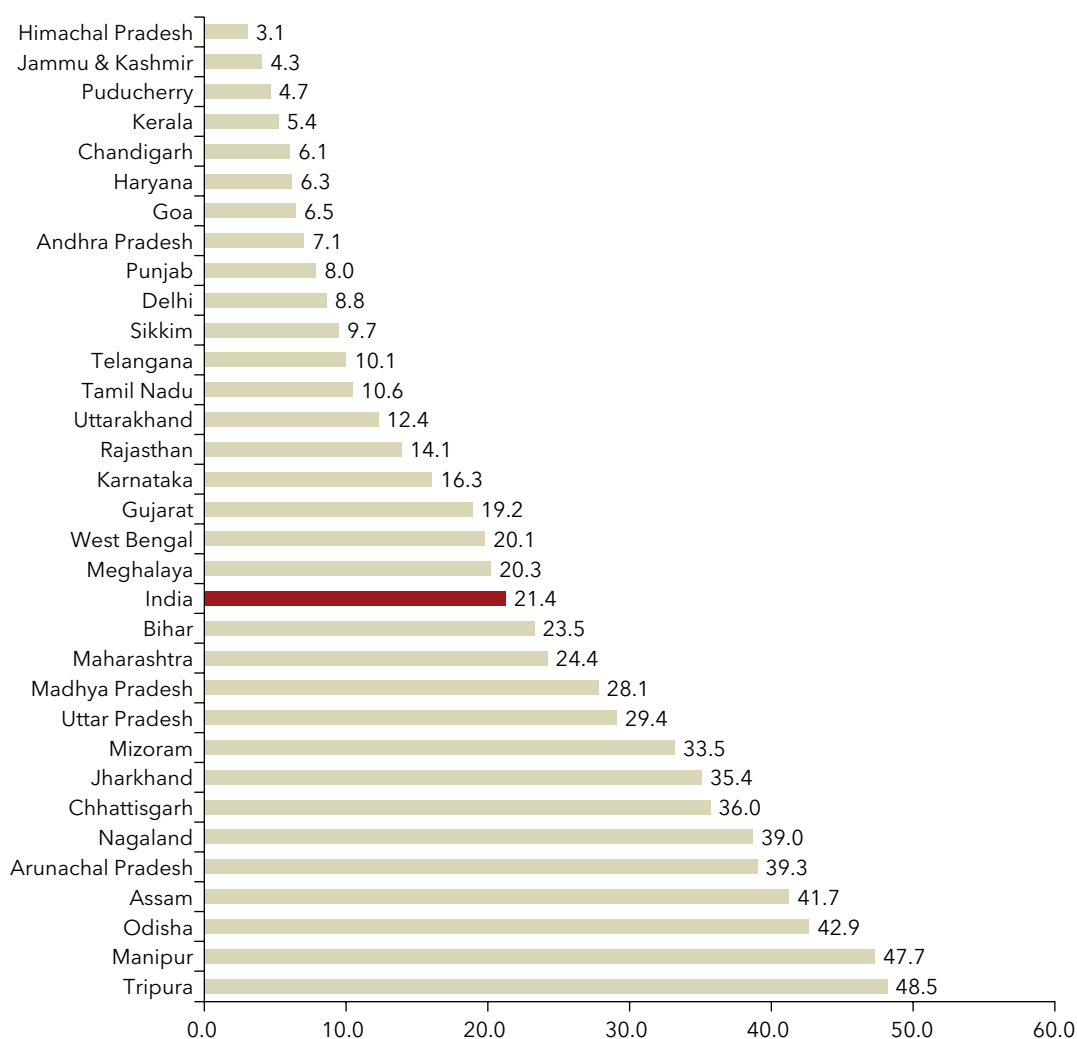
Prevalence of smokeless tobacco by state/UT according to gender is presented in Table 4.26 and Figures 4.11. Similar to the national pattern, a majority (50% or more) of the current smokeless tobacco users in all states/UTs are daily users.

Prevalence of smokeless tobacco use among all adults ranges from 3.1 percent in Himachal Pradesh to 48.5 percent in Tripura. Tripura also

**Map 4.3:** Prevalence of smokeless tobacco use by states/UTs, GATS 2 India, 2016-17



**Figure 4.11:** Percentage of current smokeless tobacco users among states/UTs, GATS 2 India, 2016-17



reports the highest prevalence of smokeless tobacco among women. In three states from north India—Himachal Pradesh, Chandigarh and Punjab—less than one percent women use smokeless tobacco. Among men, the prevalence of smokeless tobacco is highest in Odisha (52.1%) and lowest in Puducherry (4.5%). State/UT level differentials in smokeless tobacco use are summarized in Table 4.26.

In all states/UTs, prevalence of tobacco use in any form is much lower in women than. Prevalence of smoking is also much lower in women than men. However, this is not true in case of smokeless tobacco. In the three states of Meghalaya (11.6% among men vs. 29.1% among women), Mizoram (21.3% among men vs. 46.0%

among women) and Tripura (40.8% among men vs. 56.5% among women), prevalence of smokeless tobacco use is higher among women than men. Especially in Meghalaya and Mizoram, smokeless tobacco use among women is more than twice of that among men.

Similar to tobacco use, smokeless tobacco users in Uttar Pradesh—the most populous state in India—account for more than one-fifth (22%) of total smokeless tobacco users in India. Two states, Uttar Pradesh and Maharashtra, together account for one-third (33%) of smokeless tobacco users in the country. Inclusion of five more states—Bihar, Madhya Pradesh, Odisha, West Bengal and Assam—account for more than two-thirds (68%) of smokeless tobacco users in India.

**Table 4.26:** Percentage of adult aged 15 or above who currently use smokeless tobacco by states/UTs, GATS 2 India, 2016-17

State/UT	Current user of smokeless tobacco		
	Total	Male	Female
India	21.4	29.6	12.8
Jammu & Kashmir	4.3	6.8	1.5
Himachal Pradesh	3.1	6.1	0.1
Punjab	8.0	15.0	0.3
Chandigarh	6.1	10.4	0.8
Uttarakhand	12.4	21.2	3.4
Haryana	6.3	10.0	2.2
Delhi	8.8	13.7	3.2
Rajasthan	14.1	22.0	5.8
Uttar Pradesh	29.4	42.6	15.2
Chhattisgarh	36.0	47.7	24.5
Madhya Pradesh	28.1	38.7	16.8
West Bengal	20.1	22.8	17.2
Jharkhand	35.4	54.1	15.7
Odisha	42.9	52.1	33.6
Bihar	23.5	41.9	3.6
Sikkim	9.7	13.8	5.1
Arunachal Pradesh	39.3	50.1	27.7
Nagaland	39.0	46.0	31.5
Manipur	47.7	50.2	45.2
Mizoram	33.5	21.3	46.0
Tripura	48.5	40.8	56.5
Meghalaya	20.3	11.6	29.1
Assam	41.7	50.5	32.5
Gujarat	19.2	27.6	10.0
Maharashtra	24.4	31.7	16.6
Goa	6.5	9.2	3.6
Andhra Pradesh	7.1	7.6	6.6
Telangana	10.1	11.3	9.0
Karnataka	16.3	22.2	10.3
Kerala	5.4	7.4	3.6
Tamil Nadu	10.6	11.9	9.3
Puducherry	4.7	4.5	4.9

Table 4.27 below presents a summary of the prevalence of smokeless tobacco use by gender across states/UTs. Such an understanding can guide prioritization of

efforts and resources in tobacco control activities at the national level, and would urge states facing a greater challenge to make greater efforts at tobacco control.



**Table 4.27:** Classification of states/UTs according to prevalence of smokeless tobacco use among men/ women, GATS 2 India, 2016-17

Smokeless tobacco prevalence %	Total	Men	Women
Less than 5%	Himachal Pradesh, Jammu & Kashmir, Puducherry	Puducherry	Himachal Pradesh, Punjab, Chandigarh, Jammu & Kashmir, Haryana, Delhi, Uttarkhand, Kerala, Goa, Bihar, Puducherry,
5% - 10%	Kerala, Chandigarh, Haryana, Goa, Andhra Pradesh, Punjab, Delhi, Sikkim	Himachal Pradesh, Jammu & Kashmir, Kerala, Andhra Pradesh, Goa	Sikkim, Rajasthan, Andhra Pradesh, Telangana, Tamil Nadu
10% - 20%	Telangana, Tamil Nadu, Uttarakhand, Rajasthan, Karnataka, Gujarat	Haryana, Chandigarh, Telangana, Meghalaya, Tamil Nadu, Delhi, Sikkim, Punjab	Gujarat, Karnataka, Uttar Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, West Bengal
20% - 30%	West Bengal, Meghalaya, Bihar, Maharashtra, Madhya Pradesh, Uttar Pradesh	Uttarakhand, Mizoram, Rajasthan, Karnataka, West Bengal, Gujarat	Chhattisgarh, Arunachal Pradesh, Meghalaya
30% - 40%	Mizoram, Jharkhand, Chhattisgarh, Nagaland, Arunachal Pradesh	Maharashtra, Madhya Pradesh	Nagaland, Assam, Odisha
40% - 50%	Assam, Odisha, Manipur, Tripura	Tripura, Bihar, Uttar Pradesh, Nagaland, Chhattisgarh	Manipur, Mizoram
50% and above		Arunachal Pradesh, Manipur, Assam, Odisha, Jharkhand	Tripura

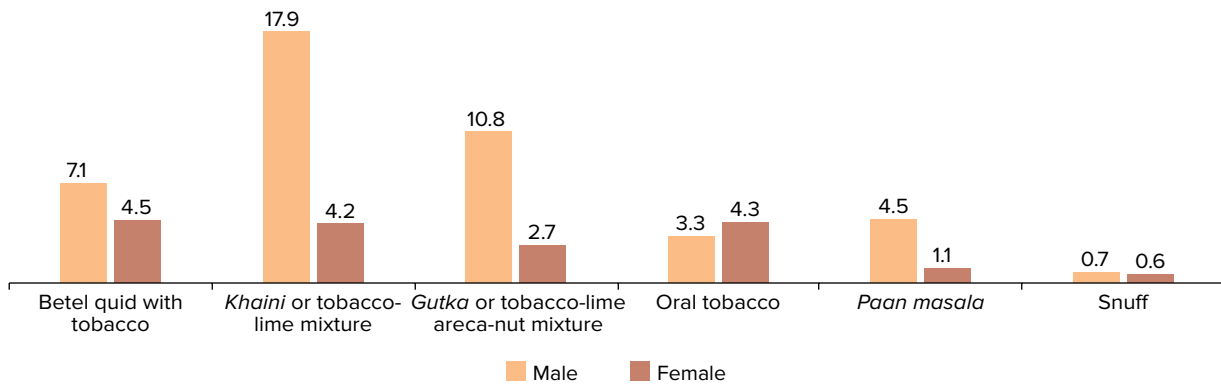
#### 4.3.4 Prevalence of various products of smokeless tobacco

The use of various smokeless products among adults is presented in Table 4.28. Appendix Table A-4.22 and Figure 4.12 present the use of various smokeless products among adults by gender. The two most commonly used smokeless tobacco products in India are *khaini*—tobacco-lime mixture used by 11.2 percent Indians (17.9% men and 4.2% women), and *gutka*—mixture of tobacco, lime and areca nut used by 6.8 percent adults (10.8% men and 2.7% women). About six percent (7.1% men and 4.5% women) of adults use betel quid with tobacco; and 3.8 percent (3.3% men and 4.3% women) use tobacco products such as *mishri*, *gul*, *gudakhu* for oral application.

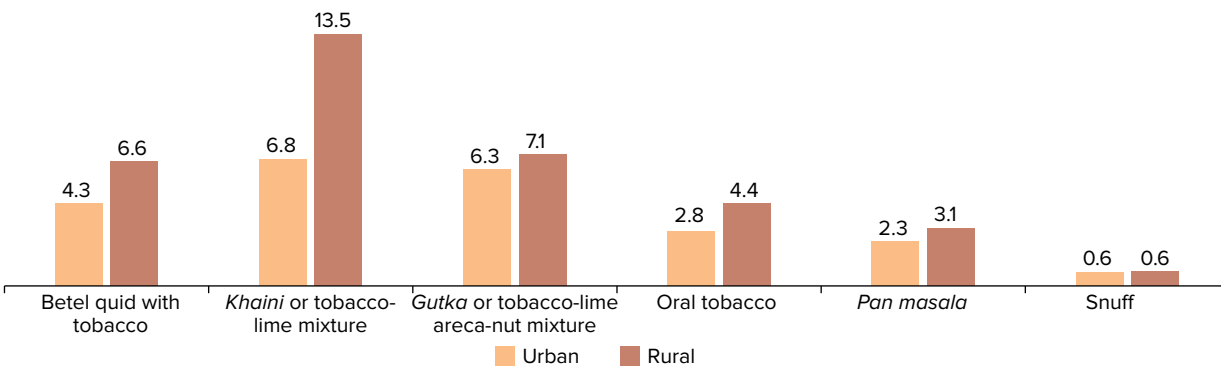
Besides these, some other products such as snuff for inhalation, *paan masala* with tobacco and other tobacco products are used by a small proportion of adults. The prevalence of each of the smokeless tobacco products is higher among men than women. The only exception is oral tobacco, which is used by a higher proportion of women than men.

Though among all adults as well as men, *khaini* is the most commonly used smokeless tobacco product, women prefer betel quid with tobacco, tobacco for oral application and *khaini* almost equally (4.2-4.5%). Among adolescents, particularly adolescent men, prevalence of *gutka* is higher than that of *khaini*. In urban areas, *khaini* (6.8%) and *gutka* (6.3%) are the most prevalent smokeless tobacco products, whereas in rural areas, *khaini* (13.5%) is the most prevalent product.

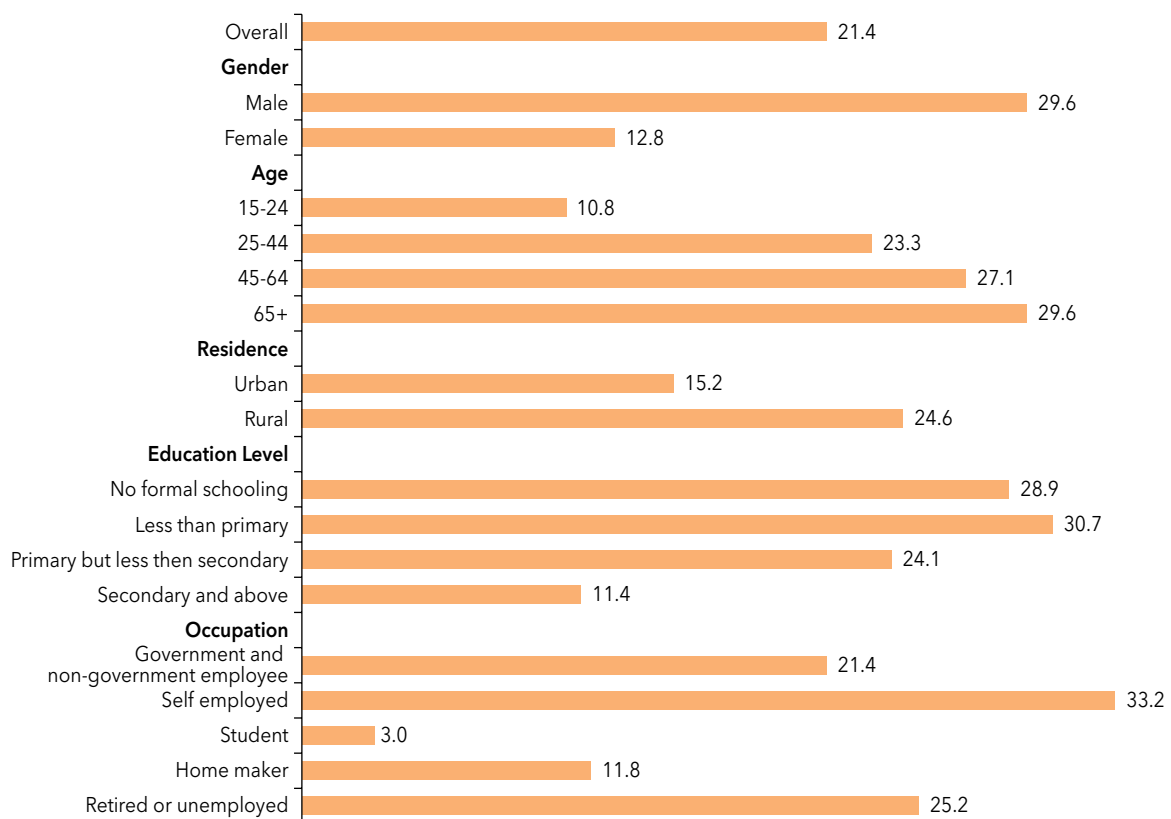
**Figure 4.12:** Percentage of adults aged 15 or above who are current users of various smokeless tobacco products by gender, GATS 2 India, 2016-17



**Figure 4.13:** Percentage of adults aged 15 or above who are current users of various smokeless tobacco products by residence, GATS 2 India, 2016-17



**Figure 4.14:** Percentage of current smokeless tobacco users by background characteristics, GATS 2 India, 2016-17



**Table 4.28:** Percentage of adults aged 15 or above who are current users of various smokeless tobacco products according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Any smokeless tobacco product	Betel quid with tobacco	<i>Khaini</i> or tobacco-lime mixture	<i>Gutka</i> , tobacco lime, areca-nut mixture	Oral tobacco	<i>Paan masala</i> with tobacco	Snuff	Other smokeless tobacco products
<b>Overall</b>	21.4	5.8	11.2	6.8	3.8	2.8	0.6	0.3
<b>Age</b>								
15-24	10.8	2.3	4.4	5.3	1.5	2.2	0.2	0.2
25-44	23.3	6.1	12.0	8.8	3.9	3.6	0.6	0.2
45-64	27.1	8.0	15.4	5.8	5.8	2.6	1.0	0.4
65+	29.6	9.3	17.0	4.8	5.6	1.9	1.2	0.5
<b>Gender</b>								
Men	29.6	7.1	17.9	10.8	3.3	4.5	0.7	0.3
Women	12.8	4.5	4.2	2.7	4.3	1.1	0.6	0.3
<b>Residence</b>								
Urban	15.2	4.3	6.8	6.3	2.8	2.3	0.6	0.2
Rural	24.6	6.6	13.5	7.1	4.4	3.1	0.6	0.3
<b>Education Level</b>								
No formal schooling	28.9	8.9	15.0	6.5	6.8	3.0	1.2	0.5
Less than primary	30.7	8.3	16.8	8.4	5.6	3.4	0.9	0.4
Primary but less than secondary	24.1	5.3	12.5	9.2	3.6	3.9	0.5	0.3
Secondary and above	11.4	3.2	5.9	4.8	1.4	1.8	0.2	0.1
<b>Occupation</b>								
Government and non-government employee	21.4	5.9	10.4	9.2	2.7	4.1	0.4	0.1
Self employed	33.2	8.4	19.3	11.1	5.0	4.5	0.9	0.4
Student	3.0	0.8	1.1	1.4	0.3	0.7	0.1	0.1
Home maker	11.8	4.1	3.8	2.7	4.0	1.1	0.5	0.3
Retired or unemployed	25.2	6.4	14.2	5.1	4.3	2.7	1.1	0.5

Prevalence of smokeless tobacco increases with age, from 10.8 percent among adolescents (aged 15-24) to 29.6 percent among adults aged 65 or above. Similar to tobacco use, the prevalence of smokeless tobacco use decreases with education. Among smokeless tobacco users across educational categories, *khaini* is the most prevalent product. Among

categories of occupation, prevalence of smokeless tobacco use is the highest among self-employed adults. More than one-third self-employed men (37.5%) and 20.6 percent self-employed women currently use smokeless tobacco. Even 22.6 percent of retired/ unemployed women use smokeless tobacco.

**Table 4.29:** Number of adults aged 15 who are current users of various smokeless tobacco products, according to residence and gender, GATS 2 India, 2016-17

Numbers in thousands

	Overall	Gender		Residence	
		Men	Women	Urban	Rural
<b>Current users of smokeless tobacco</b>	199,388	141,183	58,206	49,050	150,338
Betel quid with tobacco	54,097	33,665	20,433	13,702	40,395
<i>Khaini</i> or tobacco lime mixture	104,081	85,100	18,981	21,904	82,178
<i>Gutka</i> or tobacco lime, areca nut mixture	63,583	51,343	12,240	20,234	43,349
Tobacco for oral application	35,704	15,882	19,822	9,036	26,668
<i>Paan masala</i> with tobacco	26,537	21,499	5,039	7,371	19,167
<i>Snuff</i>	5,838	3,247	2,591	2,064	3,774
Other smokeless tobacco products	2,564	1,312	1,253	601	1,964

Among adults from all the employment categories, *khaini* is the most prevalent smokeless tobacco product. However, there are some exceptions. In the occupational category ‘government and non-government employees’, use of *gutka* is also quite prevalent. The prevalence of smokeless tobacco use among students is quite low, although among them too, *gutka* use is more prevalent. Among home makers and retired/ unemployed women, use of betel quid with tobacco and tobacco for oral application are more prevalent than *khaini*.

#### 4.3.5 Number of users of various products of smokeless tobacco

Table 4.29 presents the number of users of different smokeless products in India. Among the adult population of 932.5 million, 54.1 million people use betel quid with tobacco, 104.1 million use *khaini*, 63.6 million use *gutka*, 35.7 million use tobacco for oral application and 26.5 million use *paan masala* with tobacco. The number of male users of every kind of smokeless tobacco product is higher than female users, except for products used orally. The number of users of all smokeless tobacco products in rural areas is higher than that in urban areas, partly because of the higher prevalence of smokeless tobacco use in rural areas and partly because of the larger rural population.

The number of users of different smokeless tobacco products reflect the volume of the tobacco epidemic in India. In a few cases, the magnitude of prevalence may not give a clear idea of the problem of tobacco use, but when translated into the number of users, the enormity of the tobacco epidemic in India becomes evident.

#### 4.3.6 Prevalence of various products of smokeless tobacco by state/UT

Table 4.30 presents state/ UT level variation in different smokeless tobacco products. There is large variation in the prevalence of use of the most common smokeless tobacco products across states.

In majority of states/UTs, *khaini* is the most prevalent smokeless tobacco product. However, in Manipur, Tripura, Meghalaya, Karnataka, Kerala, Tamil Nadu and Puducherry, betel quid with tobacco is the most commonly used smokeless tobacco product. In Rajasthan, Madhya Pradesh, and Gujarat, *gutka* is the most prevalent product. Tobacco for oral application is the most commonly used product in Chhattisgarh, Mizoram and Odisha, whereas *paan masala* with tobacco is the most prevalent smokeless tobacco product in Nagaland.

**Table 4.30:** Percentage of adults aged 15 or above who are current users of various smokeless tobacco products by state/UTs, GATS 2 India, 2016-17

State/UT	Any smokeless tobacco product	Betel quid with tobacco	Khaini or tobacco lime mixture	Gutka, tobacco lime, areca nut mixture	Oral tobacco	Paan masala with tobacco	Snuff	Other smokeless tobacco
India	21.4	5.8	11.2	6.8	3.8	2.8	0.6	0.3
Jammu & Kashmir	4.3	0.8	2.3	0.4	0.7	0.2	0.4	0.4
Himachal Pradesh	3.1	0.0	2.6	0.5	0.0	0.1	0.1	0.2
Punjab	8.0	0.4	5.2	2.3	0.5	0.2	0.0	0.0
Chandigarh	6.1	0.9	4.8	1.0	0.9	0.4	0.0	0.0
Uttarakhand	12.4	2.7	8.0	2.2	0.2	3.1	0.0	0.0
Haryana	6.3	1.1	3.2	2.5	0.3	0.4	0.1	0.0
Delhi	8.8	2.6	4.9	3.0	1.6	1.3	0.4	0.1
Rajasthan	14.1	4.0	8.2	9.0	4.7	4.6	3.2	0.2
Uttar Pradesh	29.4	10.2	15.9	11.5	4.3	7.2	0.1	0.0
Chhattisgarh	36.0	2.0	16.1	7.8	19.7	1.8	0.0	0.4
Madhya Pradesh	28.1	4.1	11.7	13.7	3.8	4.4	0.6	0.3
West Bengal	20.1	6.4	10.8	2.9	4.9	2.2	0.2	0.1
Jharkhand	35.4	4.9	26.6	8.3	4.5	1.1	0.2	1.7
Odisha	42.9	8.6	16.9	9.4	14.9	8.6	0.2	1.5
Bihar	23.5	3.4	20.4	3.7	1.6	1.4	0.7	0.0
Sikkim	9.7	2.6	8.7	1.2	0.1	0.5	0.0	0.1
Arunachal Pradesh	39.3	14.9	22.9	18.9	4.0	4.7	0.7	0.2
Nagaland	39.0	17.5	10.1	9.4	5.1	21.1	0.2	0.1
Manipur	47.7	38.6	17.5	2.7	2.2	4.2	0.6	1.8
Mizoram	33.5	4.3	11.1	4.0	21.6	0.8	0.1	3.1
Tripura	48.5	39.5	9.3	2.5	0.4	10.4	0.4	0.5
Meghalaya	20.3	12.0	7.7	2.4	6.0	2.5	1.5	2.2
Assam	41.7	19.0	23.1	8.2	1.1	2.9	0.2	0.0
Gujarat	19.2	1.1	3.3	12.8	3.0	1.4	1.4	0.9
Maharashtra	24.4	3.7	15.5	8.6	5.0	1.7	0.8	0.2
Goa	6.5	2.7	4.1	2.6	0.4	1.3	0.2	0.4
Andhra Pradesh	7.1	2.4	4.5	1.9	1.7	0.2	0.1	0.0
Telangana	10.1	3.9	5.2	2.9	3.1	1.1	0.5	0.3
Karnataka	16.3	9.4	3.3	5.9	1.3	0.7	0.5	0.5
Kerala	5.4	4.4	0.7	0.7	0.3	0.4	0.5	0.1
Tamil Nadu	10.6	6.0	2.4	0.7	1.6	0.1	1.2	0.0
Puducherry	4.7	3.4	1.2	0.7	0.2	0.1	0.2	0.1

Appendix Table A-4.23 and A-4.24 present state/ UT level variation in different smokeless tobacco products among men and women respectively. Prevalence of certain smokeless tobacco products in some of the states is very high. For example, in Jharkhand (44.3%), Bihar (37.3%), Assam (37.3%) and Arunachal Pradesh (34.0%), more than one-third of the men use *khaini*. In Tripura (26.4% of men and 53.0% of women) and Manipur (37.5% of men and 39.8% of women), betel quid with tobacco is widely used. In Mizoram (32.6%) and Chhattisgarh (19.1%), tobacco for oral application is widely used by women.

#### 4.3.7. Age at initiation of use of smokeless tobacco

The age at initiation of daily use of smokeless tobacco among ever daily users of smokeless

tobacco in the age-group 20–34 years, according to selected background characteristics, is presented in Table 4.31. The age pattern of initiation of smokeless tobacco use is quite similar to that of smoking tobacco use: 12 percent of daily users of smokeless tobacco started using tobacco on a daily basis by the age of 15; 24 percent started when in the age-group 15–17 years; 20 percent at age-group 18–19 years and the remaining 44 percent started after they had crossed the age of 20. More than one-third (36%) of daily users of smokeless tobacco aged 20-34 started daily use of smokeless tobacco before the age of 18, i.e., when they were minor. The mean age of initiation of use of smokeless tobacco is 18.8 years, almost the same as for initiation of smoking. Male daily users of smokeless tobacco started tobacco use at a younger age compared to their female counterparts. The mean age of initiation for

**Table 4.31:** Percent distribution of ever daily users of smokeless tobacco aged 20-34 by age at use of smokeless tobacco initiation, according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	Age at smokeless tobacco initiation				Total	Mean age
	<15	15–17	18–19	20–34		
<b>Overall</b>	12.1	24.1	19.6	44.2	100	18.8
<b>Gender</b>						
Men	11.1	25.0	20.5	43.4	100	18.7
Women	16.8	20.0	15.3	47.9	100	19.2
<b>Residence</b>						
Urban	12.4	25.8	14.3	47.5	100	18.9
Rural	12.0	23.6	21.2	43.2	100	18.8
<b>Education level</b>						
No formal schooling	17.3	24.0	16.9	41.8	100	18.4
Less than primary	12.8	27.3	20.4	39.4	100	18.4
Primary but less than secondary	13.0	23.9	20.0	43.1	100	18.7
Secondary and above	5.3	23.0	20.8	50.9	100	19.5
<b>Occupation</b>						
Government and non-government employee	13.6	24.5	16.9	45.0	100	18.8
Self employed	11.3	24.3	21.1	43.4	100	18.8
Student	14.5	33.3	15.1	37.2	100	17.5
Home maker	12.8	21.4	17.5	48.4	100	19.4
Retired or unemployed	18.5	22.5	11.3	47.6	100	18.3

men is 18.7 years as compared to 19.2 years for women. The mean age of initiation of smokeless tobacco use is almost same in urban and rural areas. Age at initiation of smokeless tobacco use bears an inverse relationship with the education level of the user. The proportion of daily users of smokeless tobacco who initiated its use before 18 years decreased from 41 percent among those with no formal education to 28 percent among those with secondary or more education; the mean age at initiation increased from 18.4 years among those with no formal education to 19.5 years among those with secondary or more education.

Appendix Table A-4.25 shows the variation in percent distribution of ever daily smokeless tobacco users between 20-34 years by age at initiation of smokeless tobacco use and mean age of initiation. In the six states of Delhi (17.6), Odisha (17.5), Sikkim (16.1), Arunachal Pradesh (16.2), Nagaland (17.3) and Maharashtra (17.4), smokeless tobacco use was initiated at a young age as mean age at initiation is below 18 years. In these six states, 45 percent or more ever daily

smokeless tobacco users aged 20-34 years started using tobacco before the age of 18.

#### 4.3.8 Prevalence of former daily use of smokeless tobacco and quit ratio

Similar to quit ratios of smoking, two types of ratios are defined here: the first is the percentage of former daily users of smokeless tobacco among all adults and the second is the percentage of former daily smokeless tobacco users among all ever daily smokeless tobacco users. The latter is known as the quit ratio.

In India, only 1.2 percent of all adults are former daily users of smokeless tobacco (Table 4.32). Since the majority of the Indian population does not use smokeless tobacco, the quit ratio is more relevant to understand the extent of success achieved by daily tobacco users in quitting.

In comparison to the quit ratio for smoking (16.8%), the quit ratio for smokeless tobacco use is very low: 5.8 percent of daily smokeless

**Table 4.32:** Percentage of adults aged 15 or above who were former daily users of smokeless tobacco, and percentage of ever daily users of smokeless tobacco who were former daily users of smokeless tobacco, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Former daily users of smokeless tobacco <sup>1</sup> (Among all adults)	Former daily users of smokeless tobacco <sup>1</sup> (Among ever daily users of smokeless tobacco) <sup>2</sup>
Overall	1.2	5.8
<b>Age</b>		
15-24	0.4	4.4
25-44	1.1	4.9
45-64	1.4	5.4
65+	3.3	10.7
<b>Gender</b>		
Men	1.4	5.2
Women	0.9	7.0
<b>Residence</b>		
Urban	1.0	7.1
Rural	1.2	5.3



Background characteristic	Former daily users of smokeless tobacco <sup>1</sup> (Among all adults)	Former daily users of smokeless tobacco <sup>1</sup> (Among ever daily users of smokeless tobacco) <sup>2</sup>
<b>Education level</b>		
No formal schooling	1.6	5.6
Less than primary	1.5	5.1
Primary but less than secondary	1.3	5.6
Secondary and above	0.7	6.8
<b>Occupation</b>		
Government and non-government employee	1.4	7.0
Self employed	1.4	4.5
Student	0.1	6.2
Home maker	0.9	7.3
Retired or unemployed	2.7	10.5

**Note:** 1 Includes current non- users of smokeless tobacco.

2 Also known as quit ratio for daily use of smokeless tobacco.

tobacco users successfully stopped the use of smokeless tobacco. In other words, in comparison with smokers, very few users of smokeless tobacco could quit such use. The quit ratio of smokeless tobacco use is slightly higher for women (7.0%) than men (5.2%), and in urban (7.1%) compared to rural areas (5.3%). The quit ratio increases with age, from 4.4 percent among users aged 15-24 years to 10.7 percent among persons aged 65 and above. Quit ratio is comparatively high among adults with secondary and above education, among retired/unemployed adults, and among government and non-government organization employees.

Quit ratios of smokeless tobacco use by states/ UTs are presented in Appendix Table A-4.26. Quit ratios are low in most of the states/UTs. Only in the seven states of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Delhi, Rajasthan, Kerala and Puducherry, does it exceed 10 percent.

#### 4.3.9 Time since quitting use of smokeless tobacco

The duration for which smokeless tobacco users could abstain from its use is an important

dimension of attempting to quit. Table 4.33 shows the percent distribution of former daily users (current non-users) of smokeless tobacco according to years since quitting smokeless tobacco. One in five former smokeless tobacco users have stayed away from smokeless tobacco for a period of one year, 33 percent have quit between one to five years, about one fifth have quit for between five to nine years and about one fourth have stopped use of smokeless tobacco for more than 10 years. The differentials in proportion of quitters who have abstained from smokeless tobacco use for 10 or more years by gender or residence are almost non-existent. Almost equal proportion of men (29%) and women (27%), and users from urban (28%) and rural areas (28%) who were former daily users of smokeless tobacco have abstained from tobacco use for more than 10 years. The proportion of quitters who have abstained from smokeless tobacco use for 10 or more years decreases with education level. A larger proportion of retired/ unemployed adults have (39%) abstained from smokeless tobacco use for 10 or more years.

Appendix Table A-4.27 gives the percent distribution of former daily smokeless tobacco users by time since quitting.

**Table 4.33:** Percent distribution of former daily users of smokeless tobacco aged 15 or above by time since quitting smokeless tobacco, according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	Time since quitting smokeless tobacco (in years)				Total
	<1	1-4	5-9	10+	
<b>Overall</b>	20.5	33.2	18.4	27.9	100
<b>Gender</b>					
Men	20.0	32.3	19.2	28.5	100
Women	21.4	34.7	16.9	27.0	100
<b>Residence</b>					
Urban	27.5	26.0	18.7	27.8	100
Rural	17.5	36.2	18.2	28.0	100
<b>Education level</b>					
No formal schooling	14.8	35.9	16.2	33.0	100
Less than primary	37.7	21.4	14.3	26.6	100
Primary but less than secondary	24.1	32.6	17.3	26.0	100
Secondary and above	15.7	35.7	25.6	23.0	100
<b>Occupation</b>					
Government and non-government employee	26.9	29.5	16.2	27.4	100
Self employed	22.2	35.7	19.2	23.0	100
Student	40.7*	59.3*	0.0*	0.0*	100
Home maker	17.7	32.3	17.0	33.0	100
Retired or unemployed	12.6	27.4	20.8	39.2	100

Note: \*Based on less than 25 unweighted cases.

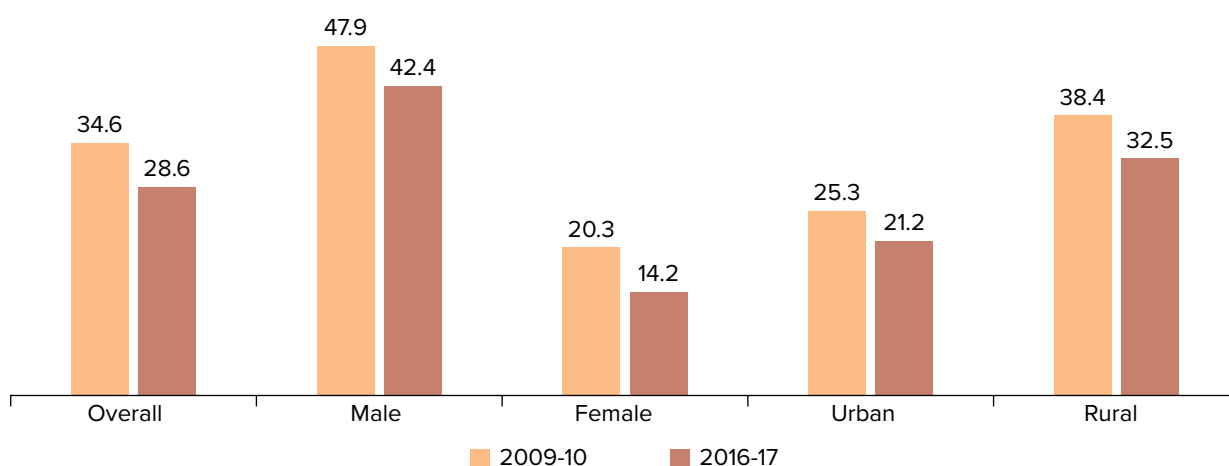
## 4.4 CHANGES IN THE PREVALENCE OF TOBACCO USE BETWEEN GATS 1 AND GATS 2

GATS 2 was implemented nine years after India launched the National Tobacco Control Program (NTCP) in 2007-08. The NTCP aimed at increasing awareness of the ill effects of tobacco use and laws pertaining to control of tobacco, as well as help tobacco users with quitting by providing cessation services. The comparison in all indicators related to tobacco use in 2009-10 from GATS 1 and in 2016-17 from GATS 2 can give an understanding about the effectiveness of NTCP measures.

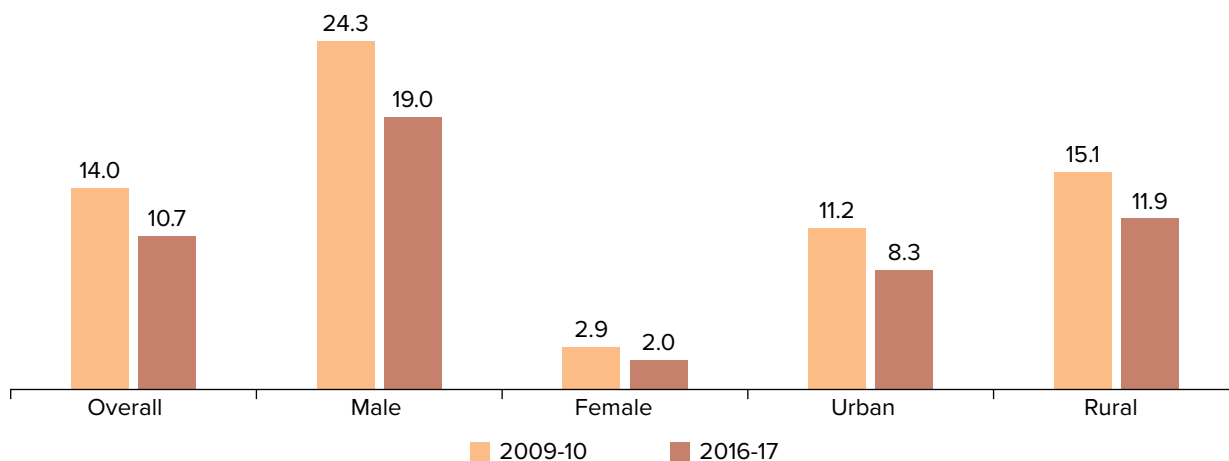
### 4.4.1. Change in Prevalence of Tobacco Use: Smoking and Smokeless by frequency of use

Table 4.34 presents the comparison of prevalence of current tobacco use, tobacco smoking and use of smokeless tobacco from GATS 1 and GATS 2, separately for all adults, for men and women, and for adults in urban and rural areas. Prevalence of tobacco use has decreased from 34.6 percent in GATS 1 to 28.6 percent in GATS 2. The relative reduction in the prevalence of tobacco use is 17.3 percent and is statistically significant. The prevalence of daily and occasional tobacco use have decreased significantly by 14.4 and 31.5 percent respectively.

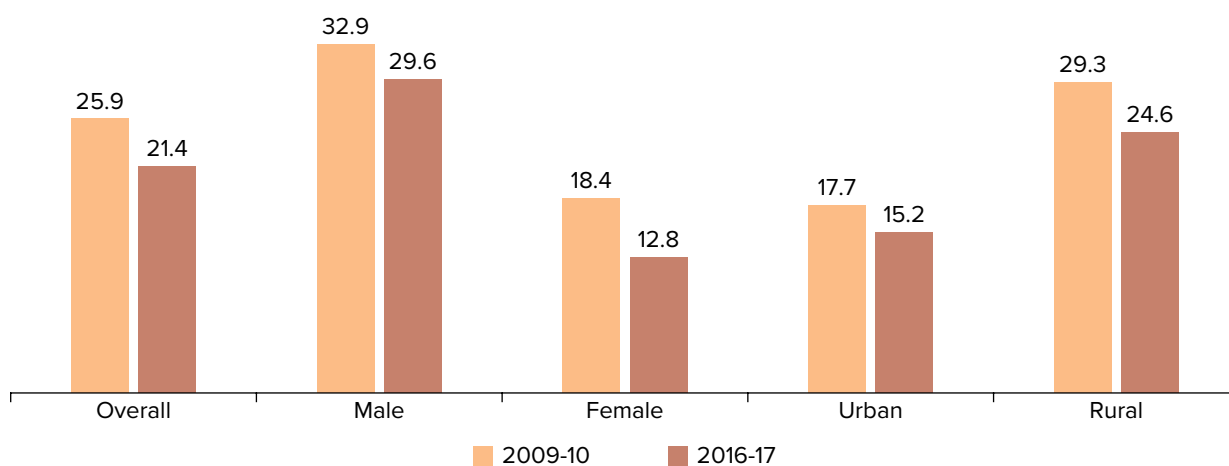
**Figure 4.15:** Change in prevalence of tobacco use by gender and residence, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 4.16:** Change in prevalence of smoking tobacco by gender and residence, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 4.17:** Change in prevalence of smokeless tobacco by gender and residence, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



The relative decrease in the prevalence of tobacco use among women—both daily and occasional tobacco use—is much higher than the corresponding relative decrease among men. The magnitude of relative decrease in current tobacco use in urban and rural areas is almost equal. The decrease in all the three indicators of tobacco use—current use (total), daily use and occasional use—among men and women and in urban and rural areas is statistically significant.

Similar to the decrease in prevalence of tobacco use, there has been a reduction in the prevalence of tobacco smoking from 14.0 percent in 2009-10 (GATS 1) to 10.7 percent in 2016-17 (GATS 2); the magnitude of relative decrease in the prevalence of smoking is 23.6 percent and is statistically significant.

The decrease in both, prevalence of daily smoking (19.6%) and occasional smoking (36.4%), is also statistically significant. In comparison to men, the relative reduction in prevalence of smoking among women is larger. However, prevalence of smoking among women even in GATS 1 was quite low. The relative decrease in prevalence of smoking among adults in urban areas is little larger than that in rural areas. Although the relative reduction in the prevalence of smoking—overall, daily and occasional—among men and women, as well as in urban and rural areas, is of varying magnitude, the reduction in all cases is statistically significant.

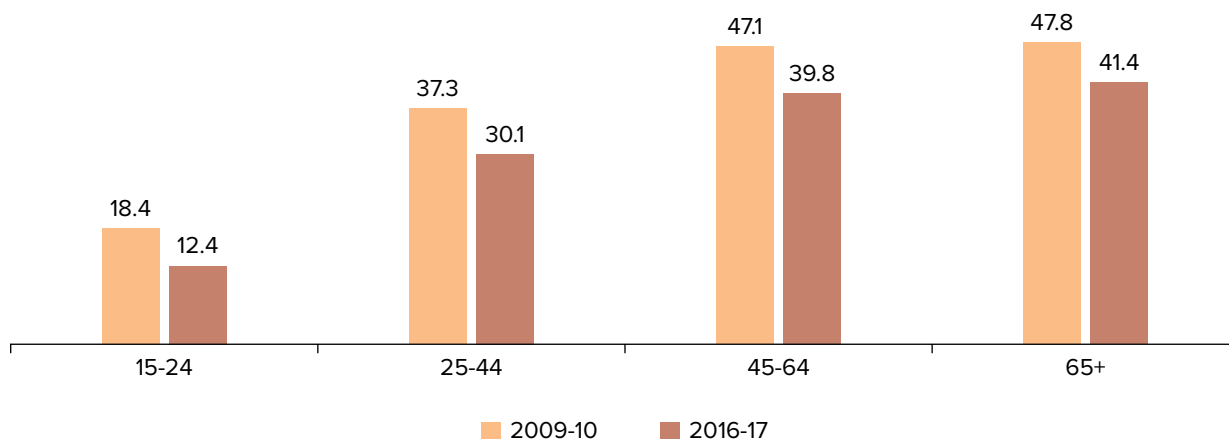
Prevalence of smokeless tobacco use has decreased significantly by 17.4 percent from 25.9 percent in 2009-10 (GATS1) to 21.4 percent

**Table 4.34:** Change in the prevalence of tobacco use, smoking and smokeless tobacco use GATS 1 India, 2009-10 and GATS 2 India, 2016-17

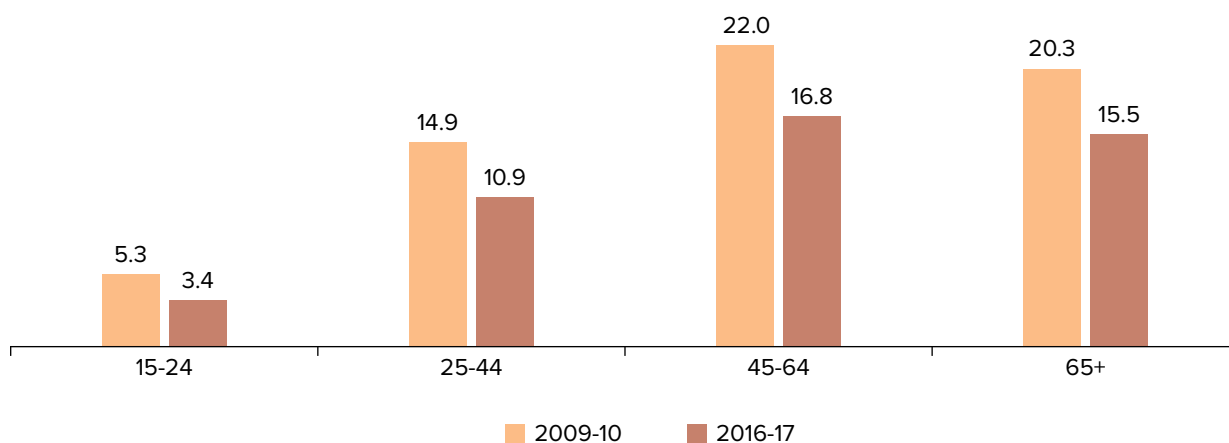
	Tobacco use			Tobacco smoking			Smokeless tobacco use		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>									
Current user	34.6	28.6	-17.3**	14.0	10.7	-23.6**	25.9	21.4	-17.4**
Daily user	29.1	24.9	-14.4**	10.7	8.6	-19.6**	21.4	18.2	-15.0**
Occasional user	5.4	3.7	-31.5**	3.3	2.1	-36.4**	4.5	3.1	-31.1**
<b>Men</b>									
Current user	47.9	42.4	-11.5**	24.3	19.0	-21.8**	32.9	29.6	-10.0**
Daily user	40.8	36.9	-9.6**	18.3	15.2	-16.9**	27.4	25.1	-8.4**
Occasional user	7.1	5.5	-22.5**	5.9	3.8	-35.6**	5.4	4.5	-16.7**
<b>Women</b>									
Current user	20.3	14.2	-30.0**	2.9	2.0	-31.0**	18.4	12.8	-30.4**
Daily user	16.7	12.4	-25.7**	2.4	1.7	-29.2**	14.9	11.1	-25.5**
Occasional user	3.5	1.8	-48.6**	0.5	0.3	-40.0**	3.5	1.7	-51.4**
<b>Urban</b>									
Current user	25.3	21.2	-16.2**	11.2	8.3	-25.9**	17.7	15.2	-14.1**
Daily user	21.1	17.9	-15.2**	8.4	6.3	-25.0**	14.7	12.8	-12.9**
Occasional user	4.2	3.3	-21.4**	2.8	1.9	-32.1**	3.0	2.5	-16.7**
<b>Rural</b>									
Current user	38.4	32.5	-15.4**	15.1	11.9	-21.2**	29.3	24.6	-16.0**
Daily user	32.5	28.6	-12.0**	11.6	9.8	-15.5**	24.2	21.1	-12.8**
Occasional user	5.9	3.9	-33.9**	3.5	2.2	-37.1**	5.1	3.5	-31.4**

Note: \* p <0.05 \*\* p <0.01

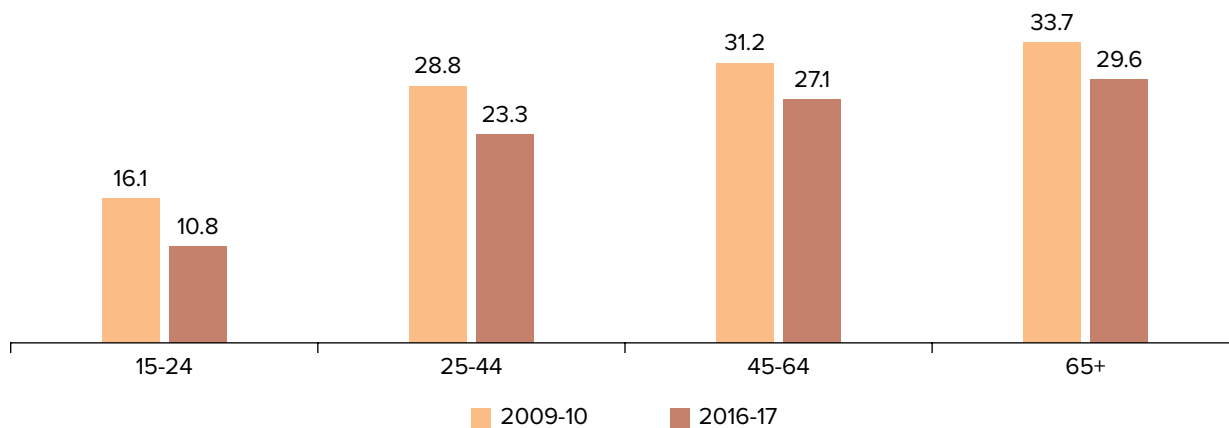
**Figure 4.18:** Change in prevalence of tobacco use by age-group, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 4.19:** Change in prevalence of smoking tobacco by age-group, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 4.20:** Change in prevalence of smokeless tobacco by age-group, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



in 2016-17 (GATS 2). The relative decrease in daily as well as occasional smokeless tobacco use is of lower magnitude in comparison to the corresponding decrease in the prevalence of smoking tobacco. Among women, the relative decrease of smokeless tobacco use has a higher magnitude (30.4%) as compared to the decrease in prevalence among men (10.0%). Similar to the relative reduction in prevalence of smoking, the relative reduction in prevalence of smokeless tobacco use—overall, daily and occasional—among men and women, as well as in urban and rural areas, is of varying magnitude, but remains statistically significant.

The relative reduction between GATS 1 and GATS 2 in the prevalence of all three parameters—tobacco use, smoking, smokeless tobacco use, for all adults, and for men and women by age-group and residence is presented in Table 4.35. The salient findings reflected in the table are:

- ❖ Among adults from all the four age-groups, there is a significant decrease in all the three prevalence indicators—tobacco use, tobacco smoking and smokeless tobacco use, the decrease in the prevalence among adolescents aged 15-24 years between the two survey rounds was of larger magnitude in comparison to their older counterparts. Decrease in tobacco use of all forms among young people is quite encouraging for the tobacco control program.
- ❖ Among men as well as women, classified by age-group and residence, there is a significant decrease in all three prevalence indicators—tobacco use, tobacco smoking and smokeless tobacco use. The exceptions are prevalence of smoking among women aged 15-24, and smokeless tobacco use among men aged 45-64 and 65 and above, where though there is a decrease; this drop is not statistically significant.

**Table 4.35:** Change in the prevalence of tobacco use, smoking and smokeless tobacco use according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Background characteristics	Tobacco use			Tobacco smoking			Smokeless tobacco use		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>	34.6	28.6	-17.3**	14.0	10.7	-23.6**	25.9	21.4	-17.4**
<b>Residence</b>									
Urban	25.3	21.2	-16.2**	11.2	8.3	-25.9**	17.7	15.2	-14.1**
Rural	38.4	32.5	-15.4**	15.1	11.9	-21.2**	29.3	24.6	-16.0**
<b>Age (years)</b>									
15-24	18.4	12.4	-32.6**	5.3	3.4	-35.8**	16.1	10.8	-32.9**
25-44	37.3	30.1	-19.3**	14.9	10.9	-26.8**	28.8	23.3	-19.1**
45-64	47.1	39.8	-15.5**	22.0	16.8	-23.6**	31.2	27.1	-13.1**
65+	47.8	41.4	-13.4**	20.3	15.5	-23.6**	33.7	29.6	-12.2**
<b>Men</b>	47.9	42.4	-11.5**	24.3	19.0	-21.8**	32.9	29.6	-10.0**
<b>Residence</b>									
Urban	37.5	32.6	-13.1**	20.4	15.4	-24.5**	23.6	21.5	-8.9**
Rural	52.3	47.6	-9.0**	25.9	21.0	-18.9**	36.8	34.0	-7.6**

Background characteristics	Tobacco use			Tobacco smoking			Smokeless tobacco use		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Age (years)</b>									
15-24	27.4	20.3	-25.9**	9.7	6.3	-35.1**	23.1	17.4	-24.7**
25-44	54.6	47.6	-12.8**	27.0	20.2	-25.2**	39.3	35.0	-10.9**
45-64	61.1	55.7	-8.8**	37.4	29.5	-21.1**	33.8	33.4	-1.2
65+	55.7	52.6	-5.6*	31.0	26.0	-16.1**	33.6	32.8	-2.4
<b>Women</b>	20.3	14.2	-30.0**	2.9	2.0	-31.0**	18.4	12.8	-30.4**
<b>Residence</b>									
Urban	11.8	9.0	-23.7**	1.1	0.7	-36.4**	11.1	8.6	-22.5**
Rural	23.7	16.9	-28.7**	3.7	2.6	-29.7**	21.3	14.9	-30.0**
<b>Age (years)</b>									
15-24	8.3	3.7	-55.4**	0.3	0.2	-33.3	8.2	3.6	-56.1**
25-44	19.0	12.0	-36.8**	2.1	1.3	-38.1**	17.6	11.1	-36.9**
45-64	32.1	23.5	-26.8**	5.7	3.7	-35.1**	28.4	20.6	-27.5**
65+	40.2	31.0	-22.9**	9.9	5.7	-42.4**	33.9	26.6	-21.5**

Note: \* p <0.05 \*\* p <0.01

#### 4.4.2. Change in Prevalence of Tobacco Use Across the states

National level data shows significant decrease in all the indicators of different forms of tobacco use. However, this was not the case in all states and UTs surveyed. Table 4.36 gives the prevalence of all the three indicators—tobacco use, smoking, smokeless tobacco use—and relative reduction in each of them for all states and UTs in India. The highlights of the table are:

- ❖ From GATS 1 to GATS 2, in three states of India—Tripura, Assam and Tamil Nadu—prevalence of tobacco use has increased and the increase is statistically significant.
- ❖ In all the remaining states/ UTs, tobacco use has either decreased significantly or remained practically unchanged.
- ❖ In all the 30 states and two UTs surveyed, prevalence of smoking has either

decreased significantly or remained practically unchanged.

- ❖ In none of the states/ UTs has the prevalence of smoking increased significantly.
- ❖ In six states—Punjab, Uttar Pradesh, Tripura, Assam, Goa, and Tamil Nadu—the prevalence of smokeless tobacco use has increased and the increase is statistically significant.
- ❖ In all the remaining states/UTs, smokeless tobacco use has either decreased significantly or remained practically unchanged.
- ❖ In three states—Bihar, Sikkim and Kerala—the relative decrease in prevalence of tobacco use is more than 40 percent and is statistically significant.

All states/ UTs are categorized in the following table 4.37 according to the change



**Table 4.36:** Change in the prevalence of tobacco use, smoking and smokeless tobacco use, by states/UTs, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

State/UTs	Tobacco use			Tobacco smoking			Smokeless tobacco use		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
India	34.6	28.6	-17.3**	14.0	10.7	-23.6**	25.9	21.4	-17.4**
Jammu & Kashmir	26.6	23.7	-10.9*	21.9	20.8	-5.0	7.6	4.3	-43.4**
Himachal Pradesh	21.2	16.1	-24.1**	18.3	14.2	-22.4**	4.5	3.1	-31.1*
Punjab	11.7	13.4	14.5	6.9	7.3	5.8	6.5	8.0	23.1*
Chandigarh	14.3	13.7	-4.2	11.0	9.4	-14.5	5.4	6.1	13.0
Uttarakhand	30.7	26.5	-13.7**	22.1	18.1	-18.1**	11.6	12.4	6.9
Haryana	23.7	23.6	-0.4	19.6	19.7	0.5	6.4	6.3	-1.6
Delhi	24.3	17.8	-26.7**	17.4	11.3	-35.1**	10.5	8.8	-16.2
Rajasthan	32.3	24.7	-23.5**	18.8	13.2	-29.8**	18.9	14.1	-25.4**
Uttar Pradesh	33.9	35.5	4.7	14.9	13.5	-9.4	25.3	29.4	16.2**
Chhattisgarh	53.2	39.1	-26.5**	12.6	5.5	-56.3**	47.2	36.0	-23.7**
Madhya Pradesh	39.5	34.2	-13.4**	16.9	10.2	-39.6**	31.4	28.1	-10.5*
West Bengal	36.3	33.5	-7.7*	21.3	16.7	-21.6**	21.9	20.1	-8.2
Jharkhand	50.1	38.9	-22.4**	9.6	11.1	15.6	47.9	35.4	-26.1**
Odisha	46.2	45.6	-1.3	10.3	7.0	-32.0**	43.1	42.9	-0.5
Bihar	53.5	25.9	-51.6**	14.2	5.1	-64.1**	48.7	23.5	-51.7**
Sikkim	41.6	17.9	-57.0**	26.4	10.9	-58.7**	25.6	9.7	-62.1**
Arunachal Pradesh	47.7	45.5	-4.6	29.4	22.7	-22.8**	36.2	39.3	8.6
Nagaland	56.8	43.3	-23.8**	31.5	13.2	-58.1**	45.3	39.0	-13.9**
Manipur	54.1	55.1	1.8	25.7	20.9	-18.7**	44.5	47.7	7.2
Mizoram	67.2	58.7	-12.6**	39.7	34.4	-13.4**	40.7	33.5	-17.7**
Tripura	55.9	64.5	15.4**	27.3	27.7	1.5	41.4	48.5	17.1**
Meghalaya	55.2	47.0	-14.9**	35.7	31.6	-11.5*	28.2	20.3	-28.0**
Assam	39.3	48.2	22.6**	14.4	13.3	-7.6	32.7	41.7	27.5**
Gujarat	29.4	25.1	-14.6**	11.0	7.7	-30.0**	21.6	19.2	-11.1*
Maharashtra	31.4	26.6	-15.3**	6.6	3.8	-42.4**	27.6	24.4	-11.6**
Goa	8.8	9.7	10.2	4.8	4.2	-12.5	4.6	6.5	41.3*
Karnataka	28.2	22.8	-19.1*	11.9	8.8	-26.1**	19.4	16.3	-16.0**
Kerala	21.4	12.7	-40.7*	13.4	9.3	-30.6**	10.7	5.4	-49.5**
Tamil Nadu	16.2	20.0	23.5*	9.6	10.5	9.4	8.1	10.6	30.9**
Puducherry	15.1	11.2	-25.8*	10.3	7.2	-30.1**	6.1	4.7	-23.0*

Note: \* p <0.05 \*\* p <0.01

**Table 4.37** Categorization of states/ UTs according to significance and magnitude of relative change in the prevalence of tobacco use, smoking and smokeless tobacco use between GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Change from 2009-10 (GATS 1) to 2016-17 (GATS 2)	Tobacco use	Smoking	Smokeless tobacco use
No significant change	Punjab, Chandigarh, Haryana, Uttar Pradesh, Odisha, Arunachal Pradesh, Manipur, Goa	Jammu & Kashmir, Punjab, Chandigarh, Haryana, Uttar Pradesh, Jharkhand, Tripura, Assam, Goa, Tamil Nadu	Chandigarh, Uttarakhand, Haryana, Delhi, West Bengal, Odisha, Arunachal Pradesh, Manipur
Significant increase	Tripura, Assam, Tamil Nadu		Punjab, Uttar Pradesh, Tripura, Assam, Goa, Tamil Nadu
Significant decrease (Relative decrease <=20%)	Jammu & Kashmir, Uttarakhand, Madhya Pradesh, West Bengal, Mizoram, Meghalaya, Gujarat, Maharashtra, Karnataka	Uttarakhand, Manipur, Mizoram, Meghalaya	Madhya Pradesh, Nagaland, Mizoram, Gujarat, Maharashtra, Karnataka
Significant decrease (Relative decrease > 20% and <=40%)	Himachal Pradesh, Delhi, Rajasthan, Chhattisgarh, Nagaland, Jharkhand, Puducherry	Himachal Pradesh, Delhi, Rajasthan, Madhya Pradesh, West Bengal, Odisha, Arunachal Pradesh, Gujarat, Karnataka, Kerala, Puducherry	Himachal Pradesh, Rajasthan, Chhattisgarh, Jharkhand, Meghalaya, Puducherry
Significant decrease (Relative decrease > 40%)	Bihar, Sikkim, Kerala	Chhattisgarh, Bihar, Sikkim, Nagaland, Maharashtra	Jammu & Kashmir, Bihar, Sikkim, Kerala

in prevalence of tobacco use, smoking, and smokeless tobacco use.

States in which decrease of prevalence of all the three indicators—tobacco use, tobacco smoking, and smokeless tobacco use—is statistically significant are shown in green.

#### 4.4.3 Change in the number of cigarettes and *bidis* smoked per day between GATS 1 and GATS 2

Besides prevalence of tobacco use, another important dimension of tobacco use is the intensity of use, measured here by the number of cigarettes and *bidis* smoked by daily cigarette and *bidi* smokers respectively. The change in the number of cigarettes and *bidis* smoked by

a daily smoker of these products is shown in Table 4.38.

The average number of cigarettes smoked per day by a daily cigarette smoker has increased from 6.2 in GATS 1 to 6.8 in GATS 2. This increase of 0.6 cigarettes per day (relative increase of 9.7%) is not statistically significant. The average number of cigarettes smoked per day has decreased among female daily cigarette smokers (by 1.8 cigarettes per day) and cigarette smokers from urban areas (by 0.1 cigarette) between GATS 1 to GATS 2, and has increased among cigarette smokers from rural areas (by 1.1 cigarettes); however, these changes are not statistically significant. There is an increase in the average number of cigarettes smoked per day by male cigarette smokers of the order of 0.9 cigarettes per

**Table 4.38:** Change in the number of cigarettes and *bidi* smoked on an average per day, according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Average number of cigarettes smoked per day by daily cigarette smoker			Average number of <i>bidis</i> smoked per day by daily <i>bidi</i> smoker		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>	6.2	6.8	9.7	11.6	15.1	30.2**
<b>Gender</b>						
Men	6.1	7.0	14.8*	12.2	15.6	27.9**
Women	7.0	5.2	-25.7	6.5	7.8	20.0
<b>Residence</b>						
Urban	6.4	6.3	-1.6	11.7	14.3	22.2
Rural	6.1	7.2	18.0	11.6	15.3	31.9**

Note: \*p <0.05 \*\* p <0.01

day, which is significant at five percent level of significance.

Between GATS 1 and GATS 2, the average number of *bidis* smoked per day by a daily *bidi* smoker has increased by 3.5 *bidis* (relative increase of 30.2%). The increase is statistically significant at one percent level of significance. There has been an increase in the average number of *bidis* smoked per day by both male and female *bidi* smokers and *bidi* smokers from urban as well as rural areas. However, the increase in the average number of *bidis* smoked per day by a male *bidi* smoker and smoker from rural areas is statistically significant.

#### 4.4.4 Change in the prevalence of various tobacco products between GATS 1 and GATS 2

Between GATS 1 and GATS 2, not only there has been significant reduction in the prevalence of tobacco use, but the prevalence of all smoking and smokeless products among all adults has also decreased significantly (Table 4.39). Among males, the prevalence of *hukkah* smoking and use of tobacco for oral application has remained unchanged; in the use of cigar/ cheroots/ cigarillos, there is a small decrease, but this is not statistically significant. Among females, the prevalence of *gutka* has shown a small, but not statistically significant decrease.

#### 4.4.5. Change in the age at initiation of smoking and smokeless tobacco use between GATS 1 and GATS 2

The table comparing tobacco prevalence from GATS 1 and GATS 2 has already shown the large and significant decrease in prevalence of smoking and smokeless tobacco use among young adults aged 15-24 years. The other side of this finding is an increase in the age at initiation of tobacco use. Table 4.40 presents the comparison in the average age at initiation of daily smoking/ smokeless tobacco use among daily smokers/ smokeless tobacco users aged 20-34 years between GATS 1 and GATS 2.

Table 4.40 shows an increase of one year in the average age at initiation of daily smoking from 17.9 years in GATS 1 to 18.9 years in GATS 2; the increase is statistically significant. There is an increase in the average age of initiation of daily smoking among both male and female smokers, as well as smokers from urban and rural areas. Except the increase in the average age of initiation of daily smoking among smokers from urban areas, increase in all others is statistically significant.

The average age at initiation of daily smokeless tobacco use among daily smokeless tobacco users aged 20-34 years has increased from

**Table 4.39:** Change in the prevalence of various tobacco products by gender, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Tobacco products	2009-10			2016-17			Relative change		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
Current smokers of Cigarette <sup>1</sup>	5.7	10.3	0.8	4.0	7.3	0.6	-29.8**	-29.1**	-25.0**
<i>Bidi</i>	9.2	16.0	1.9	7.7	14.0	1.2	-16.3**	-12.5**	-36.8**
Cigars, cheroots or cigarillos	0.6	0.7	0.5	0.3	0.6	0.1	-50.0**	-14.3	-80.0**
<i>Hukkah</i>	0.9	1.1	0.6	0.7	1.1	0.3	22.2**	0.0	50.0**
Current users of Betel quid with tobacco	6.2	7.5	4.9	5.8	7.1	4.5	-6.5**	-5.3*	-8.2**
<i>Khaini</i>	11.6	18.0	4.7	11.2	17.9	4.2	-3.4*	-0.6	-10.6**
<i>Gutka</i>	8.2	13.1	2.9	6.8	10.8	2.7	-17.1**	-17.6**	-6.9
Oral tobacco application	4.7	3.3	6.3	3.8	3.3	4.3	-19.1**	-0.0	-31.7**

Note: 1 Includes manufactured cigarettes and rolled tobacco in paper or leaf. :\* p <0.05 \*\* p <0.01

**Table 4.40:** Change in the age at initiation of daily tobacco use (among daily smokers and smokeless tobacco users aged 20-34), according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Average age at initiation of daily smoking (for smoker aged 20-34)			Average age at initiation of daily smokeless tobacco use (for daily smokeless tobacco users aged 20-34)		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>	17.9	18.9	5.6**	17.9	18.8	5.0**
<b>Gender</b>						
Male	18.1	18.8	3.9*	18.2	18.7	2.7*
Female	14.7	21.2	44.2**	17.1	19.2	12.3**
<b>Residence</b>						
Urban	18.5	19.0	2.7	18.3	18.9	3.3
Rural	17.7	18.8	6.2**	17.8	18.8	5.6**

Note:\* p <0.05 \*\* p <0.01

17.9 years in GATS 1 to 18.8 years in GATS 2. The increase is statistically significant. Similar to the age at initiation of daily smoking, there is an increase in the average age of initiation of daily smokeless tobacco use among male

and female smokeless tobacco users, as well as users from urban and rural areas. Except the increase in the average age of initiation of daily smokeless tobacco use in urban areas, increase in all others is statistically significant.

## 4.5 E-CIGARETTE

An e-cigarette or Electronic Nicotine Delivery System (ENDS) is a battery-operated smoking device that creates aerosol by heating a mix of liquid nicotine, propylene glycol, water, glycerin and flavour, which, when inhaled, gives the feel of smoking a real cigarette. Manufacturers claim the aerosol is just water vapour, but tests have detected the presence of toxic chemicals in it. The device first appeared in Chinese markets in 2004, and was sold as a “healthy alternative to tobacco”. According to the World Health Organisation, since 2005, the e-cigarette industry has grown from just one Chinese manufacturer to a global business worth an estimated \$3 billion, with 500 brands and 8,000 flavours<sup>(20)</sup>.

Use of e-cigarette is fairly new, so its long-term effects are still unknown. However, one study found that e-cigarettes produce 31 harmful chemicals, including some that are believed to cause cancer. In India, five states have banned e-cigarette. In Jammu & Kashmir, Karnataka, Punjab, Maharashtra and Kerala, sales of e-cigarettes is prohibited, though the usual manufactured cigarettes remain legal in all five states.

Till now, there was no data showing either extent of knowledge of e-cigarette or its use in India. GATS 2 is the first survey to include questions on awareness, and ever and current use of e-cigarettes. Table 4.41 presents the percentage of adults aware of e-cigarettes and current users of e-cigarettes by gender, residence, age-group, education level and occupation.

As seen in Table 4.41 three percent of adults in India know about e-cigarettes. Awareness of e-cigarette—whether respondents have heard about such a device—is higher among men (4.1%) and in urban areas (5.1%) than among women (1.9%) and in rural areas (1.9%) respectively. Among adults from different age-groups, awareness of e-cigarette is the highest

among adolescents (4.0%) and decreases with age to less than one percent in age-group 65 years or above. Awareness of e-cigarette increases with education from 0.6 percent among those with no formal schooling to 6.0 percent among those with education secondary schooling and above. Higher proportion of employed adults (8.1%) and students (5.6%) are aware of e-cigarette.

In India, only a small fraction (0.02%) of adults is currently using e-cigarette. Among those who are aware of e-cigarettes, 0.66 percent are using it. As only a small fraction of adults is aware of e-cigarette, its use among those aware of it rather than among all adults is discussed here.

Current use of e-cigarette among those who have heard of the device is higher among men (0.81%) and in urban areas (0.93%) as compared to their respective counterparts. Awareness of e-cigarette is lower in age-group 65 years or above and those with no formal schooling; however, in all the age-groups current use of e-cigarette is highest among adults aged 65 or above (1.28%) and those with no formal schooling (1.72%). Its use is on the higher side among self-employed (1.18%) adults. No home makers are currently using e-cigarette.

Variation in awareness and current use of e-cigarette across the states/ UTs is presented in Appendix Table A-4.28. Awareness of e-cigarette is the highest in Delhi, where 13.3 percent of adults reported having heard of it, followed by Goa where almost 10 percent of adults are aware of e-cigarette. In Manipur (8.0%), Kerala (7.4%), Haryana (7.4%), Jammu & Kashmir (6.8%), Puducherry (5.9%) and Gujarat (5.8%), five percent or more adults know about e-cigarette. Current use of e-cigarette amongst those who have heard of it is relatively higher in Sikkim (5.8%), Delhi (4.3%), Jharkhand (2.7%), Manipur (2.5%), Haryana (2.2%), and Meghalaya (2.3%), where two percent or more adults who are aware of e-cigarette are using it.

**Table 4.41:** Percentage of adults aged 15 or above who are aware of e-cigarette and who are using e-cigarette according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Aware of e-cigarette	Users of electronic cigarette	
		Among those aware	Among all adults
<b>Overall</b>	3.03	0.66	0.02
<b>Gender</b>			
Male	4.14	0.81	0.03
Female	1.87	0.31	0.01
<b>Age</b>			
15-24	3.95	0.54	0.02
25-44	3.39	0.71	0.02
45-64	2.10	0.67	0.01
65+	0.91	1.28	0.01
<b>Residence</b>			
Urban	5.12	0.93	0.05
Rural	1.93	0.28	0.01
<b>Education level</b>			
No formal schooling	0.59	1.72	0.01
Less than primary	0.98	0.08	0.00
Primary but less than secondary	2.13	0.19	0.00
Secondary and above	6.03	0.74	0.04
<b>Occupation</b>			
Government and non-government employee	8.14	0.82	0.07
Self employed	2.08	1.18	0.02
Student	5.63	0.38	0.02
Home maker	1.71	0.00	0.00
Retired or unemployed	1.60	0.17	0.00

## 4.6 NON-TOBACCO PRODUCTS

In addition to data on e-cigarette, GATS 2 also collected information on use of three non-tobacco products: 1) *paan masala* without tobacco; 2) betel quid without tobacco; 3) areca nut. Though these products do not contain tobacco, they are addictive and have harmful effects on health. It is also believed that a person using these products may easily shift from them to tobacco products.

Betel quid is usually made up of areca nut, catechu, slaked lime, and often tobacco; these are placed in a betel leaf and folded into the characteristic triangular shape. Chewing it releases carcinogenic nitrosamines from the areca nut that can cause pre-neoplastic changes<sup>(21)</sup>. Areca nut is the seed of the fruit of a tropical palm tree, *Areca Catechu*<sup>(22)</sup>. Slices of areca are used fresh or dried and occasionally cured before use by boiling, baking or roasting. These nuts are chewed either in raw form or mixed with a variety of substances including

slaked lime (aqueous calcium hydroxide paste), artificial sweeteners, spices such as cardamom, coconut, saffron etc (23, 24).

*Paan masala* is an edible powder, containing areca nut, slaked lime, and other flavouring agents. Substantial body of evidence now suggests that areca nut chewing is associated with benign and malignant diseases of the oral cavity. WHO International Agency for Research on Cancer Monograph Working Group (2009) has highlighted that evidence on areca nut and its association with oral, pharyngeal and esophageal cancer is sufficient to establish a causal link<sup>(25)</sup>. According to a study published

in Indian Journal of Cancer entitled “Review of harmful effects *Paan masala*” by Garg et al in 2015, it is carcinogenic, genotoxic, and has harmful effects on the oral cavity, liver, kidneys and reproductive organs<sup>(26)</sup>.

Table 4.42 presents prevalence of these three non-tobacco products according to selected characteristics. Among all adults, 4.8 percent use *paan masala* without tobacco, 8.7 percent use betel quid without tobacco, and 8.0 use areca nut. The variation in the prevalence of these products across different categories is not very large, although there are differences across categories.

**Table 4.42:** Percentage of adults aged 15 or above who use various non-tobacco products according to selected background characteristics, GATS 2 India, 2016-17

Background characteristic	<i>Paan masala</i> without tobacco	Betel quid without tobacco	Areca nut
<b>Overall</b>	4.8	8.7	8.0
<b>Gender</b>			
Men	6.2	8.4	8.3
Women	3.2	9.0	7.7
<b>Age</b>			
15-24	5.2	6.8	9.1
25-44	5.0	9.0	7.8
45-64	4.1	9.9	7.7
65+	3.6	9.4	6.7
<b>Residence</b>			
Urban	5.2	9.1	9.1
Rural	4.5	8.4	7.5
<b>Education level</b>			
No formal schooling	3.7	9.0	6.5
Less than primary	4.9	9.6	8.2
Primary but less than secondary	5.0	9.1	9.1
Secondary and above	5.3	7.9	8.3
<b>Occupation</b>			
Government and non-government employee	6.0	9.2	10.1
Self employed	5.7	9.6	8.5
Student	4.7	6.8	8.2
Home maker	3.3	8.1	6.9
Retired or unemployed	3.7	8.5	6.5



Use of *paan masala* without tobacco (6.2% among men and 3.2% among women) and areca nut (8.3% among men and 7.7% among women) is higher among men than women. However, use of betel quid without tobacco (8.4% among men and 9.0% among women) is higher among women than men. Tobacco use is more common in rural than urban areas but use of all the three non-tobacco products is more common in urban than rural areas. Among adults from all age-groups, use of *paan masala* without tobacco and areca nut is more prevalent among adolescents aged 15-24 years. With increase in education, there is an increase in the use of *paan masala* without tobacco, but decrease in the use of betel quid without tobacco.

The state/ UT level variation in the prevalence of these non-tobacco products is quite large (Appendix Table A-4.29). In most of the states from northern and southern part of India, prevalence of *paan masala* without tobacco is quite low. On the other hand, in Odisha (11.1%), Arunachal Pradesh (11.5%), Meghalaya (10.7%) and Assam (10.9), one in every 10 adults uses *paan masala* without tobacco. In Odisha (10.9%), Arunachal Pradesh (17.5%), Nagaland (9.0%) and Meghalaya (10.4%), a sizeable proportion of women use *paan masala* without tobacco.

Among these three non-tobacco products, betel quid without tobacco is the most prevalent product. In Meghalaya (64.9%) and Mizoram (55.1%), a majority of adults use betel quid with tobacco. Even in Assam (46.6%), Karnataka (27.8%), Manipur (23.1), Tamil Nadu (18.6%), Arunachal Pradesh (13.6%) and Uttar Pradesh (12.8%), 10 percent or more adults use betel quid with tobacco. On the contrary, in Chandigarh, Haryana, Himachal Pradesh, Jammu & Kashmir, and Punjab, less than one percent of adults use betel quid without tobacco. In many states, a higher percentage of women than men use betel quid without tobacco. For example, in Karnataka 15.5 percent of men and 40.3 percent of women consume betel quid without tobacco. In

Meghalaya, 70 percent of women and 60 percent of men consume betel quid without tobacco.

Areca nut is widely consumed in Tripura (22.6%), Tamil Nadu (19.1%), Maharashtra (17.0%), Puducherry (15.1%), Assam (11.9%), West Bengal (11.6%), Goa (11.0%) and Uttarakhand (10.8%). In many states, a higher proportion of women than men use areca nut. In Maharashtra, 21.6 percent of women and 12.7 percent of men use areca nut. Similarly, in Assam, 18.5 percent of women and 5.5 percent of men use areca nut. In Kerala, Himachal Pradesh, Jammu & Kashmir and Punjab, prevalence of areca nut is less than one percent.

## Summary

- ❖ GATS 2 reveals that 28.6 percent (266.8 million) adults in India, aged 15 and above, currently use tobacco in some form. Among adults, 24.9 percent (232.4 million) are daily tobacco users and 3.7 percent (34.4 million) are occasional users.
- ❖ The prevalence of current tobacco use among men is 42.4 percent; among females, it is 14.2 percent. Every third adult (32.5%) from rural areas and every fifth adult (21.2%) from urban area reports current use of tobacco.
- ❖ Every tenth adult (10.7%; 99.5 million) in India currently smokes tobacco. The prevalence of smoking among men is 19.0 percent and among women it is 2.0 percent. The prevalence of smoking is 11.9 percent in rural areas and 8.3 percent in urban areas.
- ❖ Every fifth adult Indian (21.4%; 199.4 million) currently uses smokeless tobacco. The prevalence of smokeless tobacco use among men and women is 29.6 percent and 12.8 percent respectively. Current use of smokeless tobacco among adults is 24.6 percent in rural and 15.2 percent in urban areas.

- ❖ Prevalence of tobacco use varies across states and UTs, ranging from 64.5 percent in Tripura to 9.7 percent in Goa.
- ❖ GATS 2 shows that *khaini*—a tobacco, lime mixture—is the most commonly used tobacco product in India, and is used by every ninth adult (11.2%). The next most commonly used tobacco product is *bidi*, smoked by 7.7 percent adult Indians. *Gutka*—a tobacco, lime, areca nut mixture—ranks third (6.8%) in use and betel quid with tobacco ranks fourth (5.8%).
- ❖ One in eight (12.2%) daily tobacco user aged 20-34 years started smoking before attaining the age of 15 years, while more than one-third (35.8%) of all daily smokers started smoking when they were younger than 18 years.
- ❖ A majority (58.5%) of daily tobacco users make their first use of tobacco within 30 minutes of waking up in the morning.
- ❖ From GATS 1 in 2009-10 to GATS 2 in 2016-17, prevalence of any form of tobacco use has decreased significantly by six percentage points, from 34.6 percent to 28.6 percent. The relative decrease in prevalence of tobacco use is 17.3 percent.
- ❖ Disaggregating for frequency of tobacco use, from GATS 1 to GATS 2, the decrease in prevalence of daily tobacco use is in the order of 4.2 percentage points (relative decrease of 14.4%), and the decrease in the prevalence of occasional tobacco use is 1.7 percentage points (relative decrease of 31.5%). The decrease in both is statistically significant.
- ❖ There is a significant increase of one year in the mean age at initiation of tobacco use from 17.9 years in GATS 1 to 18.9 years in GATS 2.

## CHAPTER 5

# TOBACCO CESSATION



Tobacco consumption in the smoked as well as smokeless form is addictive. It is now well recognised that a significant number of tobacco users would like to quit, but given the state of chronic dependence they are in, quitting is not easy. Yet, it is also recognised that deaths and disease due to tobacco use can be reduced significantly through an increased emphasis on cessation programmes. It has been projected that by 2050, if the focus is only on prevention of initiation and not cessation, the result will be an additional 160 million deaths among smokers globally<sup>(27)</sup>. It is also recognised that soon after quitting, blood pressure and the chances of heart attack, stroke, lung and other cancers decreases. WHO MPOWER policy calls for 'Offer to help tobacco users to quit' as an important strategy of tobacco control.

Tobacco cessation is a vital component of National Tobacco Control Programme. The programme calls for establishing 400 tobacco cessation centers in District Hospitals under the national programme and provision for free pharmacotherapy and counselling services at these clinics. In addition, the counsellors appointed for AIDS control and TB control would provide tobacco cessation services at the primary level. The government has established a National level tobacco cessation Quitline in New Delhi with a toll free number. It has also developed and deployed a mobile-based strategy called m-Cessation to encourage and support those who are desirous of quitting. In this strategy, those desirous of quitting give a missed call to a toll free number. This is then followed by their receiving messages on their mobile to bolster their resolve.

GATS 2, like the GATS 1 survey done seven years earlier, collected information on the current status in the desire to quit; the contribution that healthcare providers as well as different cessation initiatives are making and the current levels of success in quitting. These findings are presented in this chapter.

## 5.1 QUIT ATTEMPTS AMONG TOBACCO USERS

### 5.1.1 Quit attempts among tobacco smokers

The findings with regard to cessation attempts, and on whether healthcare providers urged cessation is presented in Table 5.1.

In the 12 months prior to survey, 38.5 percent of adult\* smokers made a quit attempt. The proportion of smokers who made an attempt to quit is more among men (38.8%) than women (35.5%). Quit attempts are higher among smokers from urban areas (41.5%) as compared to smokers from rural areas (37.4%). They are highest among the 15-24 year age-group (39.8%) and the proportion declines modestly with each higher age-group. In the age-group 65 years and above, it drops to 36.2 percent.

With respect to education levels, lesser proportion of smokers with no formal schooling make quit attempts (34.8%) as compared to those with less than primary schooling (41.5%) or primary schooling but less than secondary level education (41.3%). Among those who had completed secondary school, 38.8 percent

\* Adults wherever used in the text refers to persons aged 15 or above.

**Table 5.1:** Percentage of smokers aged 15 or above who made a quit attempt, visited a healthcare provider (HCP), were asked by the HCP, if a smoker and were advised to quit by the HCP in the past 12 months, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Made quit attempt <sup>1</sup>	Smoking cessation and healthcare seeking behavior			
		Visited aHCP <sup>1</sup>	Asked by HCP if a smoker <sup>2</sup>	Advised to quit by HCP <sup>2</sup>	Advised to quit by HCP <sup>3</sup>
<b>Overall</b>	38.5	50.2	54.5	48.8	89.7
<b>Gender</b>					
Men	38.8	49.4	55.9	50.3	90.0
Women	35.5	58.5	42.4	36.6	86.2
<b>Age</b>					
15-24	39.8	41.2	35.7	25.6	71.6
25-44	39.4	46.2	50.3	44.9	89.3
45-64	38.0	53.5	60.8	55.2	90.7
65+	36.2	60.8	57.5	53.3	92.8
<b>Residence</b>					
Urban	41.5	46.9	59.7	53.1	89.0
Rural	37.4	51.4	52.7	47.4	89.9
<b>Education level</b>					
No formal schooling	34.8	52.0	54.4	50.3	92.5
Less than primary	41.5	55.3	55.6	50.0	90.0
Primary but less than secondary	41.3	48.3	54.1	46.5	85.9
Secondary and above	38.8	46.2	54.1	48.4	89.5
<b>Occupation</b>					
Government and non-government employee	42.9	50.4	51.1	44.1	86.4
Self employed	38.5	49.5	54.6	49.5	90.7
Student	31.0	29.3	58.0	45.0	77.7
Home maker	38.1	58.2	44.6	38.2	85.7
Retired or unemployed	34.7	53.9	65.2	58.4	89.5

**Note:** 1 Includes current smokers and former smokers who have abstained for less than 12 months.

2 Among current smokers and former smokers who have abstained for less than 12 months who visited an HCP during the past 12 months.

3 Among those current smokers and former smokers who have abstained for less than 12 months who visited an HCP during the past 12 months and who were asked by a HCP if smoker.

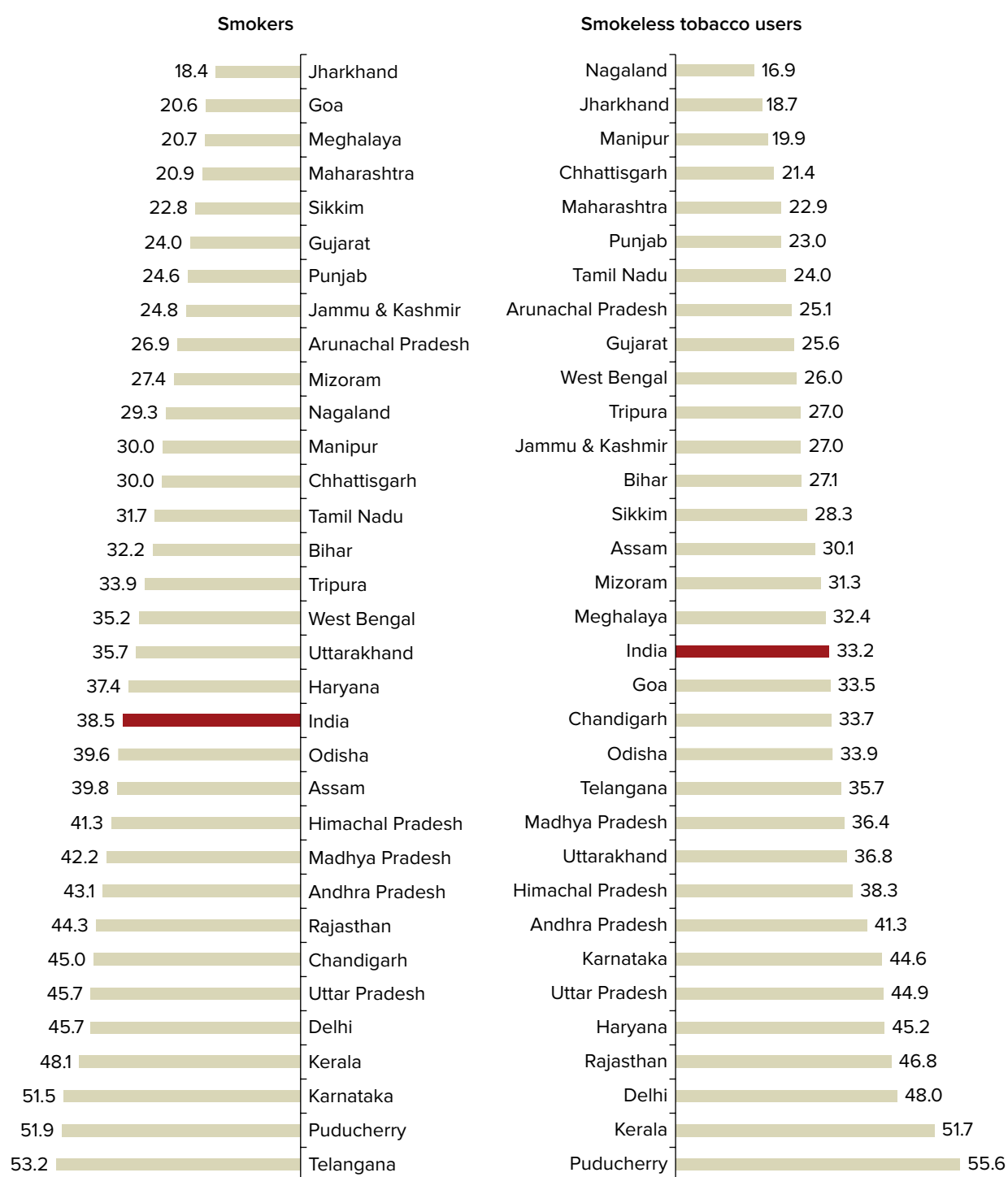
made quit attempts. Among occupational groups, quit attempts are highest among ‘government and non-government employees’ (42.9%). The lowest proportion of 31.0 percent was reported by students.

Across states/UTs, proportion of smokers who made a quit attempt in the last 12 months prior to the survey varies widely — it is 53.2 percent in Telangana, which has a relatively low smoking prevalence; 18.4 percent in

Jharkhand and 20.6 percent in Goa, where the smoking prevalence rates are low; 20.7 percent in Meghalaya, which has a high prevalence of tobacco smokers. Since, the attempt to

quit is quite independent of prevalence of smoking; one has to investigate further as to why this pattern varies so much across states. (Figure 5.1, Appendix Table A-5.1)

**Figure 5.1:** Percentage of smokers and smokeless tobacco users who made a quit attempt by states/UTs, GATS 2 India, 2016-17



## 5.1.2 Quit Attempts among Smokeless Tobacco Users

The data with respect to quit attempts by users of smokeless tobacco (Table 5.2) shows a similar pattern; 33.2 percent of adult users of smokeless tobacco made attempts to quit in the 12 months preceding the survey. The figure for male users (35.2%) who attempted to quit is higher than that for female users (28.4%). Similarly there is a higher incidence of attempting to quit in urban areas (36.7%) as compared to rural areas (32.1%). The proportion of users who attempted to quit is highest in the youngest age-group and decreases in older age-groups. As regards to occupation groups, it

is highest among employed and lowest among retired or unemployed.

Across states/ UTs, the proportion of smokeless tobacco users who made a quit attempt in the 12 months prior to the survey varies widely; the same is the case proportion of smokers who made a quit attempt (Appendix Table A-5.2). In Puducherry (55.6%) and Kerala (51.7%), a majority of smokeless tobacco users made a quit attempt. On the contrary, in Nagaland (16.9%), Jharkhand (18.7%) and Manipur (19.9%), less than one-fifth of smokeless tobacco users made a quit attempt. The proportion of smokeless tobacco users who made a quit attempt shows a negative relationship with prevalence of smokeless tobacco.

**Table 5.2:** Percentage of smokeless tobacco users aged 15 or above who made a quit attempt, visited a healthcare provider (HCP), were asked by the HCP, if using smokeless tobacco and were advised to quit by the HCP in the past 12 months, by background characteristics, GATS 2 India, 2016-17

Background characteristic	Made quit attempt <sup>1</sup>	Smokeless cessation and healthcare seeking behavior			
		Visited a HCP <sup>1</sup>	Asked by HCP if a user of smokeless tobacco <sup>2</sup>	Advised to quit by HCP <sup>2</sup>	Advised to quit by HCP <sup>3</sup>
<b>Overall</b>	33.2	47.7	37.4	31.7	84.9
<b>Gender</b>					
Men	35.2	45.2	39.3	33.3	84.6
Women	28.4	53.7	33.5	28.6	85.4
<b>Age</b>					
15-24	39.4	40.5	30.6	24.9	81.4
25-44	37.0	45.2	36.6	31.6	86.4
45-64	28.2	51.3	41.4	35.7	86.2
65+	24.1	56.5	36.4	28.8	79.1
<b>Residence</b>					
Urban	36.7	47.7	40.8	35.2	86.3
Rural	32.1	47.7	36.3	30.6	84.3
<b>Education level</b>					
No formal schooling	26.0	48.6	36.2	30.8	85.2
Less than primary	31.8	47.9	35.7	29.6	82.9
Primary but less than secondary	37.6	47.7	38.6	32.8	85.0
Secondary and above	40.3	46.1	39.1	33.3	85.2

Background characteristic	Made quit attempt <sup>1</sup>	Smokeless cessation and healthcare seeking behavior			
		Visited a HCP <sup>1</sup>	Asked by HCP if a user of smokeless tobacco <sup>2</sup>	Advised to quit by HCP <sup>2</sup>	Advised to quit by HCP <sup>3</sup>
<b>Occupation</b>					
Government and non-government employee	41.4	48.8	42.0	35.4	84.2
Self employed	33.1	45.6	38.6	33.0	85.5
Student	39.3	33.9	24.6	24.5	99.7
Home maker	30.3	53.9	33.4	27.1	81.2
Retired or unemployed	26.3	53.0	32.9	28.6	87.0

**Notes:** 1 Among current smokeless tobacco users and former users of smokeless tobacco who have abstained for less than 12 months.  
2 Among current and former users of smokeless tobacco who have abstained for less than 12 months, and who visited an HCP during the past 12 months.  
3 Among those current and former users of smokeless tobacco who have abstained for less than 12 months who visited an HCP during the past 12 months *and* who were asked by the HCP if user of smokeless tobacco.

## 5.2 VISIT TO HEALTHCARE PROVIDER BY TOBACCO USER AND ADVICE ON QUITTING

### 5.2.1 Visits by tobacco smokers

Table 5.1 shows that 50.2 percent smokers had visited a healthcare provider within 12 months prior to the survey. Current smokers as well as former smokers who had abstained for less than 12 months are included in this. Of those who had visited healthcare providers, little more than half (54.5%) had been asked whether they were smoking, and 48.8 percent had been advised to quit by the provider. About 90 percent of those who were asked whether they were smoking were also advised to quit.

The same pattern is seen across all background characteristics. About half of those who visited healthcare providers were asked if they were a smoker; and if they were asked, about 90 percent of those so asked would also be advised to quit. A lower proportion of those visiting a healthcare provider were asked whether they were smokers in three groups: those in the age-group 15-24 years (35.7%), female smokers (42.4%) and smokers from the occupational category of homemakers (44.6%).

The prevalence of smoking in these groups is relatively low, with a lower perceived likelihood of members being smokers. Out of these three groups, 72 percent smokers in the age- group 15-24 years, who were asked whether they were smokers, were asked to quit. A possible reason for this could be that persons of younger age-group visiting a healthcare provider showed no symptoms commonly associated with tobacco use. Among the higher age-groups visiting a healthcare provider, there would often be symptoms leading the provider to think of tobacco use.

Clearly, a greater focus on efforts to encourage and persuade healthcare providers to be proactive and ask the question about smoking to all, including those who may not apparently be a smoker; and advice to quit if the person is found to be a smoker would help.

The findings on visiting a healthcare provider and the advice to quit smoking vary widely across states/UTs (Appendix Table A-5.1). Some states like Jharkhand, Gujarat and all states from north-east except Assam show lower proportion of visits to the healthcare provider by smokers in the last 12 months (18-34%). However, except in Jharkhand, about half of those who made a visit were asked if they were smokers; over 80 percent of those



asked were advised to quit. This pattern is also seen in Chandigarh and Assam, but with slightly higher proportion of those visited.

There are other states/UTs where the proportion of smokers who made a visit to healthcare provider in the last 12 months are high, but where healthcare providers failed to ask them whether they were smokers. An example is Uttar Pradesh, where 71.4 percent smokers visited a healthcare provider, but only 39.7 percent were asked if they were smokers. Over 90 percent of those who were asked were advised to quit. In Odisha, where 50.2 percent had visited a healthcare provider, only 26.4 percent of them had been asked if they were smokers; 75 percent of those who were asked were advised to quit. This pattern is also seen in Delhi.

In most other states, about 50 percent or more smokers visited a healthcare provider; among them, anywhere from 42.5 percent in Uttarakhand to 88.3 percent in Telangana were asked if they were smokers and in almost all (90% or more) of those cases, they were advised to quit. There are a few states in this category, like Chhattisgarh, where although a relatively high proportion of people were asked (67.0%) if they were smokers, those advised to quit was relatively low (48.1%).

### 5.2.2 Visit to Healthcare Provider by Smokeless Tobacco Users

Table 5.2 shows that 47.7 percent of smokeless tobacco users visited a healthcare provider within the 12 months preceding the survey. Both current users and former users of smokeless tobacco who had abstained for less than 12 months are included. The proportion of smokeless tobacco users who visited a healthcare provider is only marginally less than for smokers. Among those who visited, only 37.4 percent had been asked whether they were users of smokeless tobacco – which is considerably less than a similar query to smokers (54.5%). However, among those who were asked, about 85 percent were advised to quit by the provider.

This pattern is seen across all background characteristics – except in two sub-groups: those aged 15-24 years and students. In all other sub-groups, the proportion who visited healthcare providers ranges from 45-57 percent; among them, those who were asked about smokeless tobacco use ranges from 33-42 percent.

Among users of smokeless tobacco aged 15-24 years, only 30.6 percent were asked if they were users of smokeless tobacco; among students, the corresponding proportion is 24.6 percent. In case of the latter group, almost everyone was advised to quit, but in the age-group 15-24 years, only 81.4 percent of smokeless tobacco users who visited the HCP were advised to quit. The proportion who made a visit to healthcare providers is higher among women (53.7%) than men (45.2%). However, a lesser proportion of women as compared to men were asked if they used smokeless tobacco (33.5% among women and 39.3% among men); women who were advised to quit is even lesser (28.6% among women and 33.3% among men).

The pattern across states on current users of smokeless tobacco who visited a healthcare provider in preceding 12 months, and were queried about smokeless tobacco use and advised to quit is given in Appendix Table A-5.2. Broadly they parallel the findings seen with smokers.

## 5.3 USE OF CESSATION METHODS BY TOBACCO USERS

### 5.3.1 Use of Cessation Methods by Smokers

Between 2009-10, when the first round of GATS India was conducted and 2016-17, when the second round was conducted, the Government of India's National Tobacco Control Programme has introduced a number of methods that are offered to those motivated to quit. These

include pharmacotherapy in the form of nicotine replacement therapy or other prescription medications; counseling; support through helpline call center or through mobile—the latter is known as m-Cessation.

A sizeable proportion of tobacco users also try methods of their own choice other than these, including traditional medicines and indigenous systems. Among smokers, switching to smokeless forms is often mistakenly perceived as a form of cessation. Most of those who quit, however, try to quit without any forms of assistance.

Table 5.3 presents the findings regarding the proportion of those who tried to quit smoking availed of any form of support, and how many made quit attempts without any assistance. The survey indicates that many switched to smokeless tobacco as a form of quitting smoking. The survey shows that a modest 4.1 percent of all smokers made use of some measure of pharmacotherapy support; 8.6 percent had counselling support; and 4.8 percent used other means of support. As many as 71.7 percent made quit attempts on their own without support from any method offered by the tobacco control programme.

When analysed according to background characteristics, more than 60 percent smokers from every background characteristic attempted to quit smoking on their own without any support from the tobacco control programme. A greater proportion of women than men did so; younger the smoker, more likely they are to try quitting without assistance. Urban residence and higher education levels are also associated with greater proportions attempting to quit on their own. Among occupational groups, the likelihood of trying to quit without any assistance is highest among students and goes on decreasing among employees, self-employed, home makers and retired or unemployed, respectively.

The use of pharmacotherapy as a support for cessation shows the same pattern as those who try to quit without assistance with respect of gender and residence. It is more among men

(4.2%) than women (3.0%) and more among those living in urban areas (6.6%) than rural areas (3.0%). It rises with age—from 2.8 percent among age-group 25-44 year to 4.6 percent in the 45-64 year age-group and 6.6 percent in the 65 years and above age-group. In the age-group 15-24 years, it is 4.8 percent. Among occupational categories, it is highest among employees (6.0%) and lowest in students (1.0%). However, students have a relatively high proportion of counseling as a support in their attempts to quit (10.0%).

The pattern in counseling support differs from that for pharmacotherapy. Counseling refers not only to the process followed in a smoking cessation clinic, but also that which is provided by primary healthcare providers. The proportion who sought counseling is high among senior citizens aged 65 and above (16.5%); this could be because they presented with respiratory problems. In most other groups based on background characteristics, those who used counselling as a support for attempts to quit was 7-10 percent.

The category 'others' includes traditional medicines and other products like chewing gum that tobacco users resort to for assistance in quitting. Some respondents stated specific reasons that precipitated quitting smoking (like getting affected with a disease, or pregnancy etc) as the trigger to try quitting. The elderly, the retired and women reported this more frequently than other sub-groups.

Switching to smokeless tobacco as a form of cessation of smoking was adopted by 4.1 percent smokers. Proportions who did so were higher in occupational groups of students (8.2%) home makers (6.0%), and employees (5.8%). It was also higher in women (5.1%) and men (4.0%) and in the age-group 25-44 years (5.4%). The reasons for the vulnerability of these groups need to be explored further.

The state/UT level variation in methods used by smokers to quit smoking presented in Appendix Table A-5.3 shows that except in West Bengal,

**Table 5.3:** Percentage of smokers aged 15 or above who tried to stop smoking in the past 12 months by use of different cessation methods during their last quit attempt by background characteristics, GATS 2 India, 2016-17

Background characteristic	Use of cessation method <sup>1</sup>				
	Pharmacotherapy <sup>2</sup>	Counselling/Advice <sup>3</sup>	Switching to smokeless tobacco <sup>4</sup>	Others <sup>5</sup>	Without any assistance
<b>Overall</b>	4.1	8.6	4.1	4.8	71.7
<b>Gender</b>					
Men	4.2	8.6	4.0	4.6	71.5
Women	3.0	8.7	5.1	6.7	74.2
<b>Age</b>					
15-24	4.8	9.9	3.9	1.7	75.0
25-44	2.8	6.6	5.4	4.4	73.4
45-64	4.6	8.3	2.9	5.3	70.5
65+	6.6	16.5	3.4	7.0	66.6
<b>Residence</b>					
Urban	6.6	8.2	2.7	5.6	76.2
Rural	3.0	8.8	4.7	4.4	69.9
<b>Education level</b>					
No formal schooling	3.0	7.4	3.2	4.0	68.8
Less than primary	5.2	8.6	4.8	6.1	73.9
Primary but less than secondary	4.5	10.5	4.9	5.0	71.4
Secondary and above	4.2	7.6	3.9	4.7	75.1
<b>Occupation</b>					
Government and non-government employee	6.0	7.8	5.8	3.4	73.5
Self employed	3.5	8.6	3.7	4.8	72.4
Student	1.0	10.0	8.2	0.3	73.6
Home maker	5.2	9.0	6.0	4.7	69.5
Retired or unemployed	5.2	9.6	3.3	7.6	63.5

**Note:** 1 Among current smokers and former smokers who have abstained for less than 12 months.

2 Pharmacotherapy includes nicotine replacement therapy and prescription medications.

3 Includes counselling at a cessation clinic and a telephone Quitline/helpline.

4 Switching to smokeless tobacco is not a cessation method for smoking- though it is often perceived as such.

5 Includes traditional medicines and other products.

Jharkhand, Sikkim, Tripura, and Karnataka, 50 percent or more smokers made the quit attempt on their own without support from the tobacco control programme in all other states/UTs. In West Bengal, one-fifth (20.8%) of smokers,

and in Jharkhand, 11.7 percent smokers sought counselling support. In Karnataka, 10 percent used pharmacotherapy and 20 percent had counselling support. In Nagaland (18.5%) and Mizoram (10.5%), ten percent or more resorted

to pharmacotherapy for quitting smoking. In Himachal Pradesh (28.1%), Rajasthan (13.8%), Chhattisgarh (18.4%), Odisha (10.6%), Nagaland (10.7%) and Meghalaya (10.5%), ten percent or more smokers sought counseling support for quitting smoking.

### 5.3.2 Use of Cessation Methods by Smokeless Tobacco Users

Table 5.4 presents the findings on the proportion of smokeless tobacco users who tried to quit with and without various kinds of assistance. The survey shows that 3.2 percent of all smokeless tobacco users made use of some measure of pharmacotherapy support; 7.3 percent had support from counseling and 5.2 percent used other means of support. As many as 74.9 percent made the quit attempt on their own.

When those quitting without any assistance are examined according to background characteristics, it is seen that a greater proportion of men (76.0%) do so than women (71.6%); also, younger users of smokeless tobacco products are more likely to try quitting without assistance. Rural residence is more associated with quitting on one's own. There is no clear pattern with educational levels. Among occupational groups, those who are retired or unemployed are far less likely to quit on their own (59.7%) and far more likely to receive counselling or advice (16.5%). In other occupational groups, the likelihood of trying to quit without any assistance ranges between 73.4 and 77.9 percent; for counselling support, it ranges between 6.1 and 6.9 percent.

The use of pharmacotherapy is relatively high among students (8.8 %) and then among retired or unemployed occupation groups (6.2%). It is modestly high in the 15-24 year age-group (4.8%) and among those with secondary education and above (4.2%). In all other sub-groups by background characteristics, utilization of pharmacotherapy is below 3.6 percent.

The state/UT level variation in methods used by smokeless tobacco users to quit smokeless

tobacco use is presented in Appendix Table A-5.4. Similar to the pattern of methods adopted to quit smoking, in most states/UTs, a majority of smokeless tobacco users attempted to quit smokeless tobacco use without seeking assistance of any specific method. In Delhi, Nagaland, Goa and Puducherry, 10 percent smokeless tobacco users used pharmacotherapy to quit. In Jammu & Kashmir (13.7%), Rajasthan (16.4%), Chhattisgarh (18.7%), West Bengal (17.2%), Odisha (11.6%) and Telangana (12.6%), 10 percent or more smokeless tobacco users sought support of counseling. In Jammu & Kashmir (9.9%), Uttarakhand (12.3%), West Bengal (10.0%), Jharkhand (9.9%) and Goa (33.8%), use of other methods was sizeable.

## 5.4 THE INTENTION TO QUIT

### 5.4.1 Interest in quitting among smokers

It was also useful to explore what proportion of the smokers were planning to quit, and how many were clearly not interested in quitting. Table 5.5 indicates that 42.0 percent of smokers are not considering quitting at all; at the other end, 8.4 percent would like to quit within the next month. More ambivalent answers are the 13.1 percent, who would consider quitting within the next 12 months; also, the 33.9 percent, who stated that they would quit someday, but not in the next 12 months. More than two in five smokers reported that they are not interested in quitting; in other words they would continue smoking.

A relatively larger proportion of smokers in the age-group 15-24 years (11.2%), and those in the occupational category of student (14.3%) report themselves as planning to quit smoking within the next month as compared to other groups. With a few exceptions, in each category of age, residence, gender, education and occupation, a majority (53-65%) of smokers reported that they would quit smoking either within a month or a year or someday. The exceptions are female smokers, smokers aged 65 years and above,

**Table 5.4:** Percentage of smokeless tobacco users aged 15 or above who tried to stop use of smokeless tobacco in the past 12 months by use of different cessation methods during their last quit attempt, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Use of cessation method <sup>1</sup>			
	Pharmacotherapy <sup>2</sup>	Counselling/Advice <sup>3</sup>	Others <sup>4</sup>	Without any assistance
Overall	3.2	7.3	5.2	74.9
<b>Gender</b>				
Men	3.4	7.0	5.5	76.0
Women	2.7	8.4	4.3	71.6
<b>Age</b>				
15-24	4.8	6.8	2.9	76.0
25-44	3.1	6.2	5.2	77.0
45-64	2.7	8.8	6.1	73.1
65+	2.7	10.7	7.0	65.3
<b>Residence</b>				
Urban	3.6	8.7	6.1	71.4
Rural	3.1	6.8	4.9	76.2
<b>Education level</b>				
No formal schooling	3.2	7.5	6.6	75.8
Less than primary	3.1	8.4	5.3	67.6
Primary but less than secondary	2.7	6.8	4.3	74.5
Secondary and above	4.2	7.2	5.0	78.5
<b>Occupation</b>				
Government and non-government employee	3.3	6.9	5.5	75.1
Self employed	2.9	6.8	5.7	76.5
Student	8.8	6.9	1.5	77.9
Home maker	2.2	6.1	2.5	73.4
Retired or unemployed	6.2	16.5	6.6	59.7

**Note:** 1 Among current users of smokeless tobacco who made a quit attempt in the past 12 months and former smokeless tobacco users who have abstained for less than 12 months.

2 Pharmacotherapy includes nicotine replacement therapy and prescription medications.

3 Includes counselling at a cessation clinic and a telephone Quitline/helpline.

4 Includes traditional medicines and other products.

those with no formal schooling and home makers and retired/ unemployed. However, even in these categories too, 44-46 percent smokers planned to quit smoking tobacco either within a month or a year or someday.

The proportion of smokers planning to quit immediately or later varies across states/UTs. It is the lowest in Gujarat at 36.1 percent and the highest in Nagaland at 80.4 percent (Appendix Table A-5.5). Along with Nagaland, in Kerala,

**Table 5.5:** Percent distribution of current smokers aged 15 or above by their interest in quitting smoking by background characteristics, GATS 2 India, 2016-17

Background characteristic	Interest in quitting smoking					Total
	Planning to quit within next month	Thinking about quitting within next 12 months	Will quit someday, but not in the next 12 months	Not interested in quitting	Don't know	
Overall	8.4	13.1	33.9	42.0	2.6	100
<b>Gender</b>						
Men	8.6	13.1	34.6	41.2	2.5	100
Women	6.9	12.7	26.9	49.6	4.0	100
<b>Age</b>						
15-24	11.2	11.4	35.7	38.2	3.3	100
25-44	8.8	12.8	37.6	38.3	2.6	100
45-64	8.0	13.9	32.2	43.1	2.7	100
65+	6.8	12.5	24.6	54.1	2.1	100
<b>Residence</b>						
Urban	8.6	13.4	39.2	36.3	2.5	100
Rural	8.4	12.9	31.9	44.0	2.7	100
<b>Education level</b>						
No formal schooling	6.9	9.8	29.7	51.1	2.5	100
Less than primary	9.7	12.6	34.3	40.7	2.7	100
Primary but less than secondary	9.5	16.9	33.5	37.7	2.4	100
Secondary and above	8.6	13.4	41.6	33.2	3.2	100
<b>Occupation</b>						
Government and non-government employee	9.8	13.5	41.8	32.5	2.4	100
Self employed	8.5	13.6	33.6	41.9	2.4	100
Student	14.3	3.8	41.5	39.1	1.4	100
Home maker	6.3	14.0	26.2	49.1	4.4	100
Retired or unemployed	6.5	8.9	29.8	51.1	3.7	100

Delhi and Telangana, 75 percent or more smokers intend to quit smoking, but have no immediate plans for doing so.

### 5.4.2 Interest in quitting among smokeless tobacco users

Table 5.6 shows that 7.8 percent are planning to quit within the next month and 11.7 percent are planning to quit within the next 12 months.

About one-third (30.2%) of smokers intend to quit, but not within the next 12 months. On the other hand, 47.8 percent of current users of smokeless tobacco aged 15 and above are not interested in quitting.

The variation in the proportion of smokeless tobacco users planning to quit immediately, later or never was more or less similar to that among smokers. A relatively larger proportion of those in the age-group 15-24 years (9.8%), and

**Table 5.6:** Percent distribution of current smokeless tobacco users aged 15 or above by their interest in quitting smokeless tobacco, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Interest in quitting smokeless tobacco					Total
	Planning to quit within next month	Thinking about quitting within next 12 months	Will quit someday, but not in the next 12 months	Not interested in quitting	Don't know	
Overall	7.8	11.7	30.2	47.8	2.6	100
<b>Gender</b>						
Men	8.2	12.4	32.2	45.1	2.2	100
Women	6.9	10.0	25.2	54.4	3.4	100
<b>Age</b>						
15-24	9.8	10.0	36.8	40.3	3.1	100
25-44	8.8	13.2	32.3	43.2	2.6	100
45-64	6.1	11.6	27.6	51.9	2.7	100
65+	6.2	7.8	20.5	64.0	1.5	100
<b>Residence</b>						
Urban	7.8	13.2	33.7	42.8	2.5	100
Rural	7.8	11.2	29.0	49.5	2.6	100
<b>Education level</b>						
No formal schooling	5.7	8.6	24.7	58.4	2.6	100
Less than primary	8.4	11.0	30.6	47.5	2.5	100
Primary but less than secondary	9.3	12.5	33.6	42.5	2.1	100
Secondary and above	8.8	16.4	34.3	37.4	3.1	100
<b>Occupation</b>						
Government and non-government employee	8.5	13.4	37.3	39.5	1.3	100
Self employed	8.1	12.2	29.9	47.3	2.5	100
Student	9.5	17.6	44.1	25.8	3.0	100
Home maker	6.9	10.1	26.2	53.9	2.8	100
Retired or unemployed	5.5	6.8	27.7	56.0	4.0	100

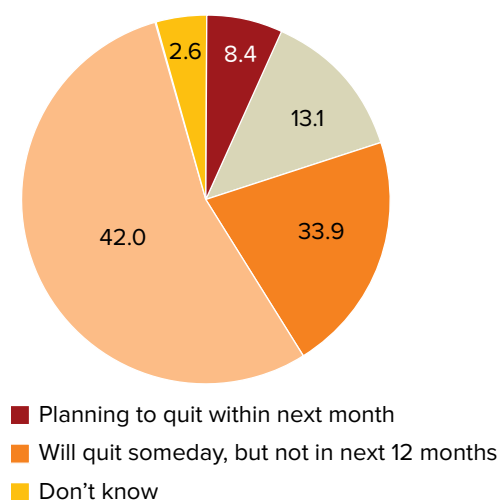
those in the occupational category of student (9.5%) reported that they would quit tobacco use within the next month as compared to other groups. In most categories of smokers by age, residence, gender, education and occupation, a majority (48-71%) of smokeless tobacco users reported that they would quit smokeless tobacco use either within a month or a year or someday. The exceptions are female, smokeless

tobacco users aged 45 and above, those with no formal schooling and home makers and retired/ unemployed. However, even in these categories too, 34-45% of smokeless tobacco users planned to quit using tobacco either within a month or a year or someday.

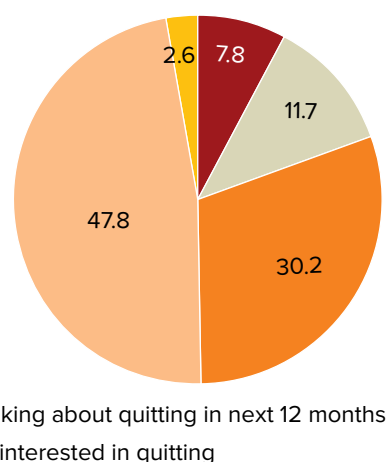
The proportion of smokeless tobacco users planning to quit immediately or later varies



**Figure 5.2:** Percent distribution of current smokers by interest in quitting smoking, GATS 2 India, 2016-17



**Figure 5.3:** Percent distribution of current smokeless tobacco users by interest in quitting smokeless tobacco use, GATS 2 India, 2016-17

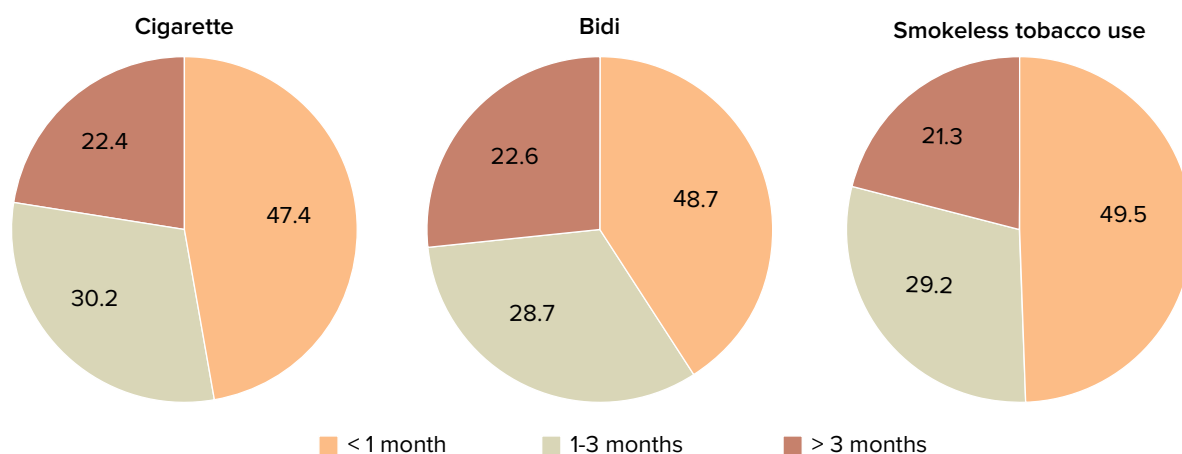


widely across states/UTs (Appendix Table A-5.6). Similar to the proportion of smokers planning to quit smoking, the proportion of smokeless tobacco users planning to quit eventually is the highest in Nagaland (79.0%). Even in Delhi, 75 percent of smokeless tobacco users reported plans of quitting smokeless tobacco use sometime in the future. At the lower end, only 27.6 percent of smokeless tobacco users in Jharkhand reported plans to quit tobacco use.

## 5.5 DURATION OF STOPPING TOBACCO USE

One question that was introduced to throw light on the seriousness of efforts at quitting and also reflect on physical dependence on nicotine was the duration for which those who made a quit attempt in the past 12 months could stay away from tobacco use.

**Figure 5.4** Percent distribution of current cigarette and *bidi* smokers and smokeless tobacco users by duration of stopping cigarette, *bidi* and smokeless tobacco use respectively, GATS 2 India 2016-17



**Table 5.7:** Percent distribution of current cigarette smokers, *bidi* smokers and users of smokeless tobacco aged 15 or above who made a quit attempt in the past 12 months, by duration of stopping use of tobacco products, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Duration of stopping use of tobacco products											
	Cigarette				<i>Bidi</i>				Smokeless tobacco			
	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total
<b>Overall</b>	47.4	30.2	22.4	100	48.7	28.7	22.6	100	49.5	29.2	21.3	100
<b>Gender</b>												
Men	46.9	30.5	22.7	100	47.7	29.2	23.2	100	48.9	29.5	21.6	100
Women	69.7	19.8	10.5	100	62.6	22.3	15.1	100	51.4	28.2	20.4	100
<b>Age</b>												
15-24	28.7	40.2	31.2	100	49.3	29.1	21.5	100	46.0	37.3	16.7	100
25-44	50.3	31.2	18.5	100	49.9	28.8	21.3	100	50.5	28.1	21.4	100
45-64	52.5	24.2	23.2	100	49.0	26.7	24.3	100	48.4	28.0	23.6	100
65+	41.8	28.1	30.1	100	43.8	34.0	22.2	100	53.6	23.3	23.1	100
<b>Residence</b>												
Urban	43.9	33.1	23.0	100	47.4	29.0	23.6	100	48.0	28.1	23.9	100
Rural	49.9	28.2	21.9	100	49.2	28.6	22.3	100	50.1	29.5	20.4	100
<b>Education level</b>												
No formal schooling	47.6	35.4	17.0	100	54.3	27.1	18.6	100	52.9	30.2	16.8	100
Less than primary	64.6	16.4	19.0	100	49.3	27.7	23.1	100	52.8	25.2	22.0	100
Primary but less than secondary	36.5	36.2	27.3	100	40.9	31.3	27.7	100	46.1	29.3	24.6	100
Secondary and above	49.9	28.3	21.8	100	52.1	27.9	20.0	100	48.9	29.8	21.3	100
<b>Occupation</b>												
Government and non-government employee	50.4	27.3	22.3	100	51.7	27.6	20.7	100	48.2	25.2	26.6	100
Self employed	45.8	31.5	22.7	100	47.7	29.7	22.6	100	49.5	30.4	20.1	100
Student	52.7	37.8	9.4	100	76.8*	2.5*	20.7*	100	31.5	42.0	26.4	100
Home maker	60.5	16.7	22.7	100	56.9	19.9	23.2	100	53.3	28.1	18.6	100
Retired or unemployed	48.2	27.5	24.3	100	47.9	27.5	24.7	100	49.0	23.1	27.9	100

Note: \*Based on less than 25 unweighted cases.

The findings presented in Table 5.7 show that about one in two could not sustain the quit attempt for even a month, whether it was to do with cigarette smoking (47.4%), *bidi* smoking (48.7%) or use of smokeless tobacco (49.5%). The figure for those who could stay away from tobacco use for more than three months was 22.4 percent for cigarette smoking, 22.6 percent for *bidi* smoking and 21.3% for smokeless tobacco. This, of course, is consistent with the understanding that all three forms of tobacco use cause similar levels of physical dependence.

It is interesting to observe that this similarity across forms of tobacco use persists for different background characteristics. Thus, more women find it more difficult than men to sustain cessation, though the difference is much less for smokeless tobacco. Similarly, urban residence is associated with longer duration of sustaining cessation than rural residence, though the difference is smaller. Except in the 15-24 year age-group, where cessation of smoking is sustained for relatively longer duration, in all other age-groups, there are similar levels of ability/inability to sustain cessation of the three different forms of tobacco use.

Appendix Table A-5.7 presents state/ UT level variation in percent distribution of cigarette smokers, *bidi* smokers and smokeless tobacco users who made a quit attempt according to

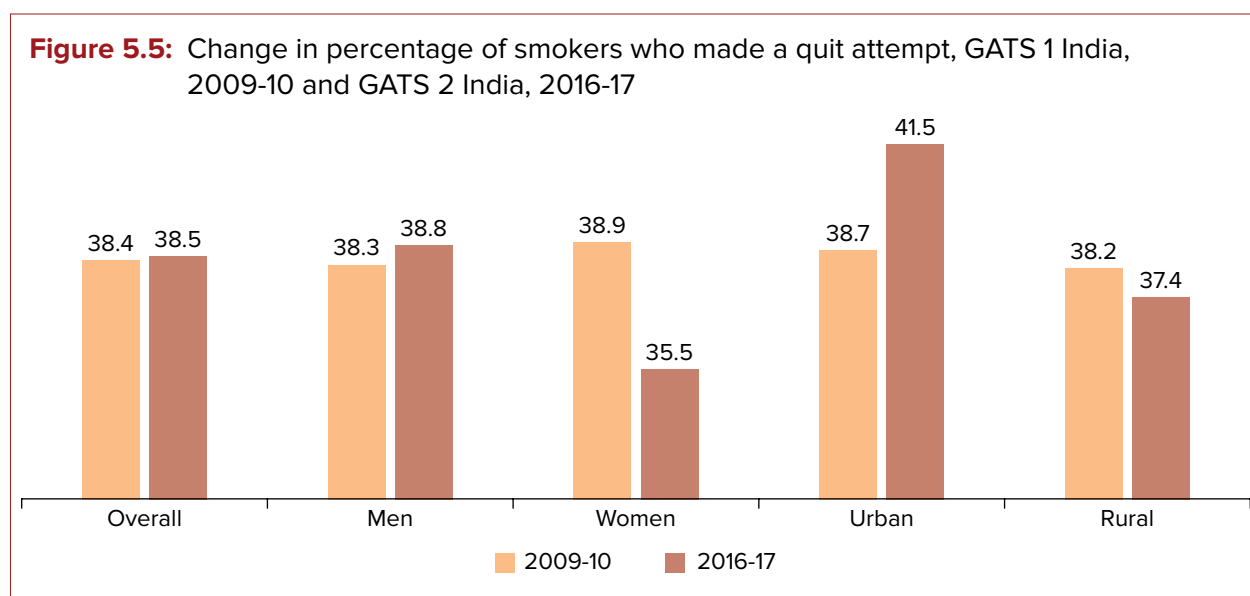
the duration for which they could stop smoking/ smokeless tobacco use. Similar to the national pattern, in most states, about one in two could not sustain the quit attempt even for a month, whether it was cigarette smoking, *bidi* smoking or the use of smokeless tobacco. Only about one in four could stay away from tobacco use for more than three months.

## 5.6 CHANGES IN CESSATION BEHAVIOR

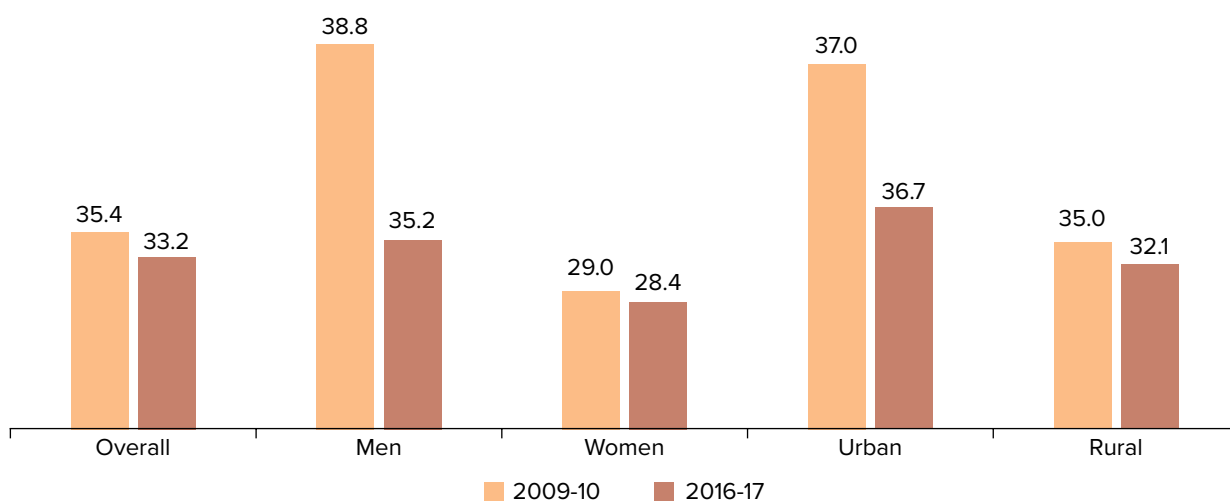
### 5.6.1 Changes in proportion of population trying to quit

Changes in the efforts at quitting are presented in Table 5.8. The findings do not show any significant change in the proportion of tobacco smokers who tried to quit smoking. The proportion of the smokeless tobacco users who made a quit attempt has decreased significantly from 35.4 percent in GATS 1 to 33.2 percent in GATS 2.

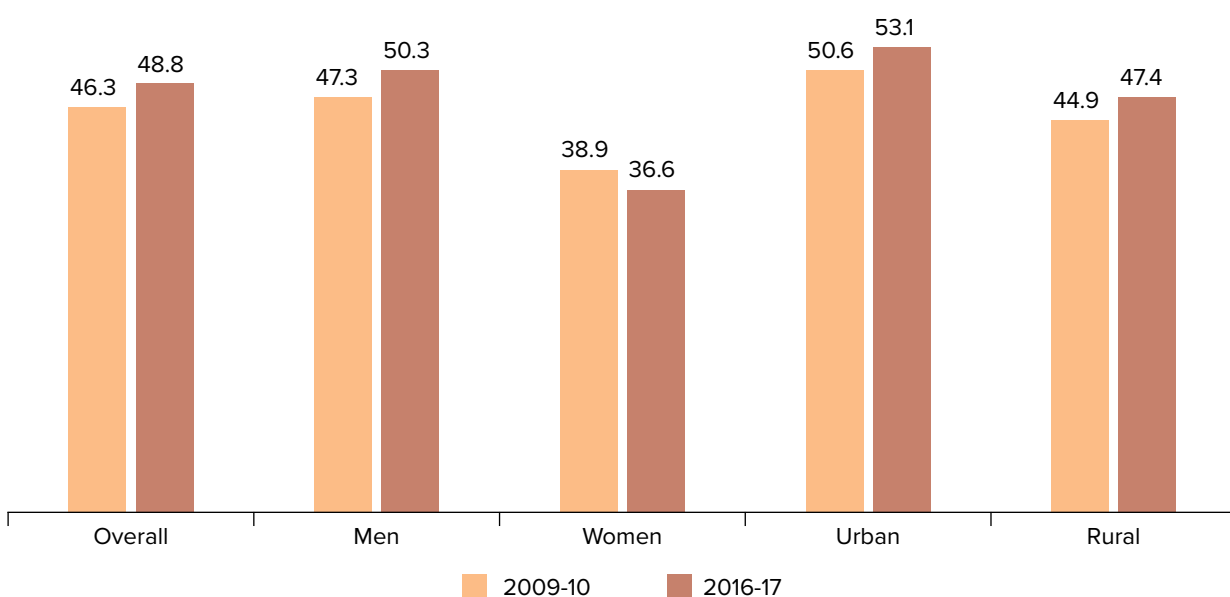
When the changes between GATS 1 and GATS 2 are analysed as per background characteristics, it is seen that the proportion of those trying to quit has increased significantly among smokers from urban areas. There is a small increase in the proportion of male smokers who made a quit attempt, but the



**Figure 5.6:** Change in percentage of smokeless tobacco users who made a quit attempt, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 5.7:** Change in percentage of smokers advised by health care provider to quit smoking, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

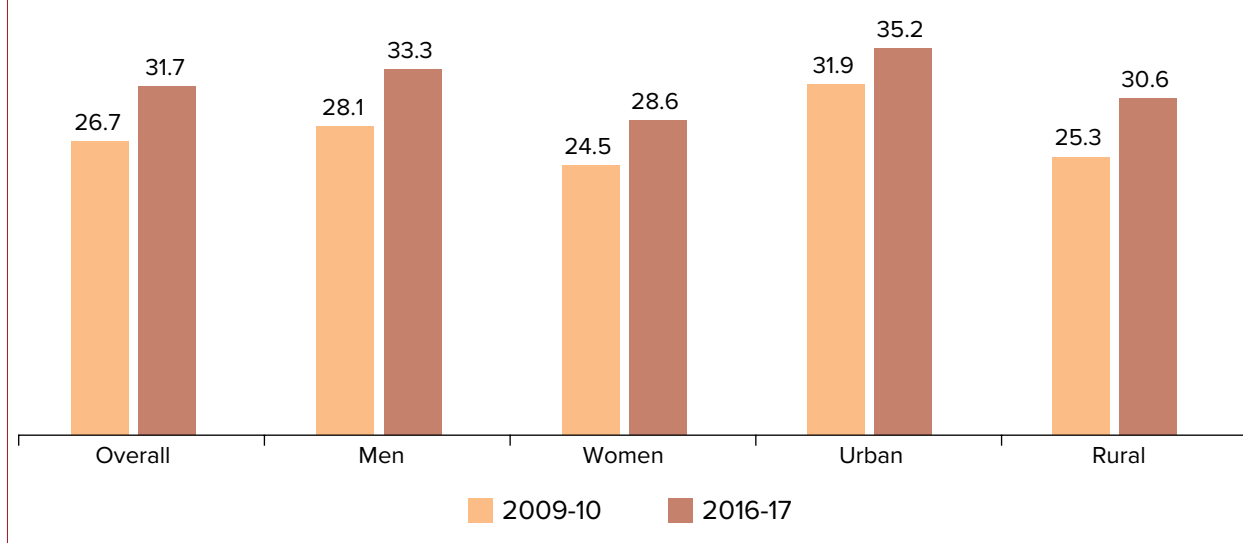


increase is not significant. There is a drop in the proportions of female smokers and smokers from rural areas, but these changes are not statistically significant.

There is a significant decrease in the proportion of smokers in the 15-24 year age-group who made a quit attempt. The changes in the proportion of smokers in other age-groups who made a quit attempt between the two rounds of GATS are not significant.

Between GATS 1 and GATS 2, the proportion of smokeless tobacco users who made a quit attempt has decreased for male and female tobacco users, as well as those from both urban and rural areas and belonging to the age-groups 15-24, 45-64 and 65 years and above. However, only the decrease among male users of smokeless tobacco, and among users of smokeless tobacco in the age-group 45-64 years are statistically significant. There is a small increase in the proportion of smokeless

**Figure 5.8:** Change in percentage of smokeless tobacco users advised by health care provider to quit smokeless tobacco use, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Table 5.8:** Change in percentage of smokers and smokeless tobacco users who made a quit attempt and who were advised to quit by the HCP in the past 12 months, according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Smoker made a quit attempt <sup>1</sup>			Smokers advised to quit by a healthcare provider <sup>2</sup>			Smokeless tobacco user made a quit attempt <sup>3</sup>			Smokeless tobacco user advised to quit by a healthcare provider <sup>4</sup>		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>	38.4	38.5	0.3	46.3	48.8	5.4*	35.4	33.2	-6.2**	26.7	31.7	18.7**
<b>Gender</b>												
Men	38.3	38.8	1.3	47.3	50.3	6.3**	38.8	35.2	-9.3**	28.1	33.3	18.5**
Women	38.9	35.5	-8.7	38.9	36.6	-5.9	29.0	28.4	-2.1	24.5	28.6	16.7**
<b>Residence</b>												
Urban	38.7	41.5	7.2*	50.6	53.1	4.9	37.0	36.7	-0.8	31.9	35.2	10.3*
Rural	38.2	37.4	-2.1	44.9	47.4	5.6*	35.0	32.1	-8.3	25.3	30.6	20.9**
<b>Age (years)</b>												
15-24	47.2	39.8	-15.7*	26.1	25.6	-1.9	43.7	39.4	-9.8	22.4	24.9	11.2
25-44	37.8	39.4	4.2	43.0	44.9	4.4	36.0	37.0	2.8	26.4	31.6	19.7**
45-64	36.5	38.0	4.1	52.9	55.2	4.3	31.6	28.2	-10.8**	28.8	35.7	24.0**
65+	36.9	36.2	-1.9	57.9	53.3	-7.9	26.2	24.1	-8.0	29	28.8	-0.7

**Note:** statistically significant \*p< 0.05, \*\* p<0.01

1 Includes current smokers and those who quit in the past 12 months.

2 Among current smokers and former smokers who have abstained for less than 12 months who visited an HCP during the past 12 months.

3 Among current users of smokeless tobacco and former users of smokeless tobacco who have abstained for less than 12 months.

4 Among current and former users of smokeless tobacco who have abstained for less than 12 months, and who visited an HCP during the past 12 months.

tobacco users aged 25-44 years who made a quit attempt, though the increase is not significant.

### 5.6.2 Changes in advice to quit during visit to healthcare provider

The proportion of smokers who were encouraged to quit smoking when they visited a healthcare provider in the preceding 12 months has increased from 46.3 percent in GATS 1 to 48.8 percent in GATS 2. The relative increase is 5.4 percent, which is statistically significant. When analysed for sub-groups as per background characteristics, the increase in the proportion of smokers who were advised by healthcare providers to quit smoking was significant only for male smokers and smokers in rural areas.

The proportion of smokeless tobacco users who were advised to quit use of smokeless tobacco when they visited a healthcare provider in the preceding 12 months has increased from 26.7 percent in GATS 1 to 31.7 percent in GATS 2. The relative increase is 18.7 percent, which is statistically significant. When analysed for each sub-group according to background characteristics, it is found that the proportion of smokeless tobacco users who were advised to quit use of smokeless tobacco by a healthcare provider has increased significantly for every sub-group, except for the age-groups of 15-24 years and 65 years and above.

### Summary and Conclusions

- ❖ More than half of all smokers (55.4%) and smokeless tobacco users (49.7%) are interested or plan to quit such tobacco use.
- ❖ Nearly two in five (38.5%) smokers made an attempt to quit smoking and about one-third (33.2%) of the users of smokeless tobacco made an attempt to quit use of smokeless tobacco in the 12 months preceding the survey.
- ❖ A small proportion of tobacco users who made a quit attempt in the preceding 12 months used either pharmacotherapy, including nicotine replacement therapy, or use of prescription medicine, or counseling/ advice that includes cessation clinic and a telephone Quitline/ help line. What stands out for concern is that a small proportion of smokers tried to quit smoking by switching to smokeless tobacco use (4.1%). Most of those who made an attempt to quit tobacco use in the 12 months prior to the survey tried to quit without assistance of any formal method of quitting.
- ❖ Almost half of all cigarette smokers (47.4%), *bidi* smokers (48.7%) and smokeless tobacco users (49.5%) who made a quit attempt in the preceding 12 months were unable to sustain the quit status for even a month.
- ❖ GATS 2 shows that 54.5 percent smokers who visited a healthcare provider in the preceding 12 months were asked whether they smoke; 48.8 percent (89.7% of those who were asked by healthcare provider) were advised to stop smoking. In contrast, about one-third (37.4%) of smokeless tobacco users who visited a healthcare provider were asked by the provider whether they use smokeless tobacco, and 31.7 percent (84.9% of those who were asked) were advised to stop smokeless tobacco use.
- ❖ The proportion of smokers who made an attempt to quit smoking in the 12 months prior to the survey has remained almost unchanged from GATS 1 (38.4%) to GATS 2 (38.5%). In contrast, there is a small but significant decrease in the proportion of smokeless tobacco users who made an attempt to quit smokeless tobacco in the 12 months prior to the survey, from 35.4 percent in GATS 1 to 33.2 percent in GATS 2.

- ❖ From GATS 1 to GATS 2, there has been a significant increase in the proportion of smokers and smokeless tobacco users who visited a healthcare provider in the preceding 12 months and were advised to quit smoking.

The findings reiterate the understanding that a high proportion of those who use tobacco

want to quit using it, and this desire to quit is increased by health providers advising them to do so. Many attempt to quit, but few are successful in the effort. Efforts to support such attempts at quitting need to be expanded. Healthcare providers also need to be sensitised and trained to proactively enquire about smoking and promote as well as support cessation efforts.





## CHAPTER 6

# SECOND HAND SMOKE



Second Hand Smoke (SHS), also termed as environment tobacco smoke, is a complex mixture of gases and particles that contain several carcinogenic and toxic compounds, resulting from indoor tobacco smoking<sup>(28, 29)</sup>. When someone smokes, most of the smoke does not go into their lungs<sup>(30)</sup>. It goes into the air, where anyone in that environment can breathe it. A large body of epidemiological research has established the link between SHS exposure and increased morbidity and mortality<sup>(31)</sup>. It is a cause of cardiovascular diseases, respiratory ailments and lung cancer<sup>(32)</sup>.

Recognising the adverse health impact of SHS among non-smokers, Government of India has adopted multiple preventive measures to protect the health of non-smokers. The government enacted the Cigarette and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act (COTPA) in 2003. Provisions under this Act include prohibition of smoking in public places. Article 8 of the WHO Framework Convention on Tobacco Control, which was ratified by India in 2004, makes it necessary to provide for a “smoke-free environment to protect the health of non-smokers from SHS in indoor workplaces, public transport, indoor public places and, as appropriate, other public places”. This article, which was enforced 2 October, 2008 onwards, completely bans smoking in all public places in India, including educational and health institutions, entertainment and hospitality places, public transport and workplaces.

GATS includes one section on SHS, which explores exposure to SHS at home and at

different places that people generally visit. This chapter on second hand smoke discusses the extent of exposure to SHS at indoor workplaces, at home and at various public places. Public places are categorised into seven groups: government buildings; health care facilities; restaurants or other public eating joints; night clubs and bars; public transportation; cinema hall or theatre and any workplace that respondents visit. Questions were asked of smokers as well as non-smokers to get a better measure of the prevalence of SHS, and to estimate the proportion of non-smokers who are exposed to SHS. This chapter also presents the findings on exposure of pregnant women to SHS.

## 6.1 EXPOSURE TO SECOND HAND SMOKE IN INDOOR WORKPLACES

Table 6.1 presents the findings on prevalence of exposure to SHS among adults aged 15 and above in workplaces during the 30 days preceding the survey, according to background characteristics. The question on SHS at workplace was asked of those who work in places having indoor or both indoor and outdoor areas.

### 6.1.1 Exposure to second hand smoke at work by background characteristics

GATS 2 shows that all workplaces are not tobacco smoke-free. Table 6.1 shows that 30.2 percent adults in India who usually work indoors or both indoors and outdoors are exposed to SHS at their workplace. The prevalence of

\* Adults wherever used in the text refers to persons aged 15 or above.

**Table 6.1:** Percentage of adults aged 15 or above who work indoors or both indoors and outdoors, and exposed to second hand smoke at work<sup>1</sup>, by smoking status, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Adults exposed to second hand smoke at work <sup>1</sup>	
	Overall	Non-smoker
Overall	30.2	26.2
<b>Gender</b>		
Men	32.7	28.3
Women	17.9	17.7
<b>Age</b>		
15-24	28.5	27.1
25-44	30.7	26.8
45-64	30.3	23.8
65+	31.7	26.1
<b>Residence</b>		
Urban	25.3	22.7
Rural	34.3	29.4
<b>Education level</b>		
No formal schooling	40.6	33.7
Less than primary	41.4	35.6
Primary but less than secondary	35.3	31.6
Secondary and above	22.3	20.3
<b>Occupation</b>		
Government and non-government employee	21.7	19.4
Self employed	37.1	32.4

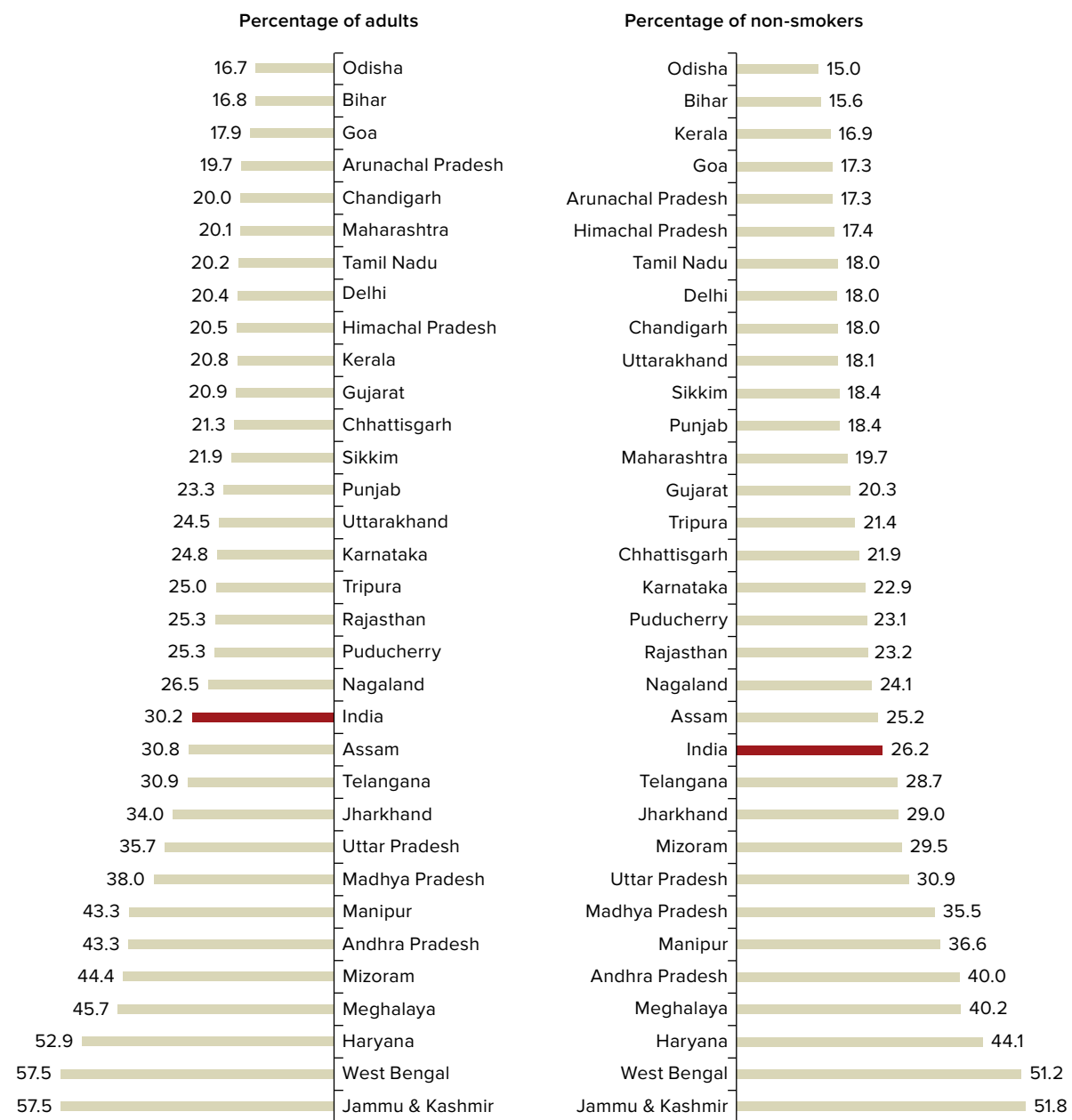
**Note:** 1 In the past 30 days, among those respondents who work outside of the home and usually work indoors or both indoors and outdoors.

exposure to SHS at the workplace is lower in urban areas (25.3%) than rural areas (34.3%). About one-third (32.7%) of male workers and 17.9 percent female workers are exposed to SHS at their workplaces. Workers from all ages are almost equally exposed to SHS at workplaces (29%-32%). There is a drop in the extent of SHS at workplaces with increase in levels of education; 40.6 percent persons with no formal schooling are exposed to SHS at workplace, compared to 22.3 percent people with secondary and above education.

Non-smokers are exposed to SHS due to their co-workers' smoking at the workplace. In each category based on background characteristics

and occupation, a sizeable proportion of non-smokers are exposed to SHS. A little more than one-fourth (26.2%) of all non-smoker workers are exposed to SHS at workplace. Exposure to SHS among less educated non-smokers is quite high (33.7% among those with no formal schooling). It is less in those with secondary education or above (20.3%). Among all adults, as opposed to only non-smokers, exposure to SHS among those who are less educated is even higher. With regard to occupational categories, exposure to SHS among all adults and non-smokers who are self-employed (32.4%) is much higher than that among government or non-government agencies (19.4%).

**Figure 6.1:** Percentage of adults exposed to second hand smoke at workplace<sup>1</sup> for all adults and non-smokers by states/UTs, GATS 2 India, 2016-17



<sup>1</sup> During the 30 days preceding the survey, among respondents who work outside home and usually work indoors, or both indoors and outdoors.

Variation in exposure to second hand smoke at the workplace across states/UTs is quite large. In each state/UT, at least one in six workers is exposed to SHS at workplace. As is evident from the above figure, more than 50 percent in three states adults are exposed to SHS in their workplaces—Jammu & Kashmir (57.5%), West Bengal (57.5%) and Haryana (52.9%)(Figure 6.1 and Appendix Table A-6.1).

## 6.2 EXPOSURE TO SECOND HAND SMOKE AT HOME

GATS 2 included questions on whether smoking is allowed inside homes, and in case it is, how often someone smokes inside the house. Table 6.2 shows the findings on the percentage of adults in whose households smoking is allowed at home; it also presents

findings on exposure to SHS at home according to background characteristics. Appendix Table 6.2 provides the same information according to states/UTs.

### 6.2.1 Exposure to second hand smoke at home by background characteristics

Smoking is allowed inside the house in 48.8 percent of all households and 45.5 percent of

non-smoker households. The numbers of male and female respondents, and respondents from different age-groups, who live in places where smoking is allowed inside the house is almost equal. The proportion of respondents who said that smoking is allowed within the house is less in urban areas (38.2%) than rural areas (54.4%).

With increase in the level of education, there is a decrease in the proportion of adults who come

**Table 6.2:** Percentage of adults aged 15 or above who reported smoking is allowed at home and were exposed to second hand smoke at home by smoking status, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Adults who reported that smoking is allowed in home		Adults exposed to second hand smoke at home	
	Overall	Non-smoker	Overall	Non-smoker
<b>Overall</b>	48.8	45.5	38.7	35.0
<b>Gender</b>				
Men	48.1	41.7	38.1	31.0
Women	49.5	48.8	39.3	38.4
<b>Age</b>				
15-24	48.8	48.2	38.6	37.9
25-44	48.4	45.1	38.6	34.8
45-64	49.3	43.3	39.0	32.4
65+	49.5	43.6	38.5	31.9
<b>Residence</b>				
Urban	38.2	35.6	27.9	25.0
Rural	54.4	50.9	44.4	40.4
<b>Education level</b>				
No formal schooling	59.0	55.2	49.4	45.1
Less than primary	55.5	50.0	44.3	37.8
Primary but less than secondary	51.6	48.7	41.1	37.8
Secondary and above	37.4	35.6	27.5	25.5
<b>Occupation</b>				
Government and non-government employee	39.3	35.0	28.8	24.1
Self employed	52.6	46.9	42.8	36.5
Student	40.7	40.9	31.5	31.6
Home maker	49.9	49.0	39.5	38.5
Retired or unemployed	50.8	45.8	38.8	32.9

from houses where smoking is allowed. The proportion of adults who reported smoking as being permissible inside the house decreases from 59.0 percent among those with no formal schooling to 37.4 percent among those with secondary or above education.

This proportion also varies with occupation of respondents. About 50 percent or more of self-employed (52.6%), retired/ unemployed (50.8%) and home-makers (49.9%) reported that smoking is permissible in their house. This figure was lesser among government and non-government employees (39.3%), and students (40.7%).

In all, 38.7 percent of all adults and 35.0 percent of non-smokers reported that people did smoke in their houses. In other words, a little more than one-third of non-smokers (35%) and 38.7 percent of all adults are exposed to SHS in their homes. The prevalence of second hand smoke inside homes was relatively higher among female (38.4%) than male (31.0%) non-smokers. As more rural compared to urban households allow smoking, the proportion of non-smokers exposed to SHS at home is higher in rural (40.4%) than urban areas (25.0%). Exposure to second hand smoke inside the home decreases with increase in education. One-fourth (25.5%) of the non-smokers with secondary and higher education are exposed to SHS at home in comparison to 45.1 percent of those with no formal education. Since the proportion of home makers and self-employed in whose houses smoking is allowed is large, the proportion of home maker non-smokers (38.5%) and self-employed non-smokers (36.5%) who are exposed to SHS at their residence is also high.

Exposure to second hand smoke at home also varies substantially across states/UTs (Figure 6.2 and Appendix Table A-6.2). There emerges a positive association between prevalence of smoking and proportion of adults from households where smoking is allowed inside the home, as well as between prevalence of smoking and exposure to SHS at home (among all adults as well as non-smokers).

In Mizoram, Manipur, Meghalaya, Jammu & Kashmir and Tripura, more than three-fourths (75-84%) of adults reported that smoking is allowed inside the home. In all these states, more than 70 percent of adults are exposed to SHS at home. On the contrary, in Andhra Pradesh, in spite of a relatively high prevalence of smoking, smoking is allowed in less than one-fourth (23%) of the households, and only 16 percent adults are exposed to SHS at home.

## 6.3 EXPOSURE TO SECOND HAND SMOKE AT PUBLIC PLACES

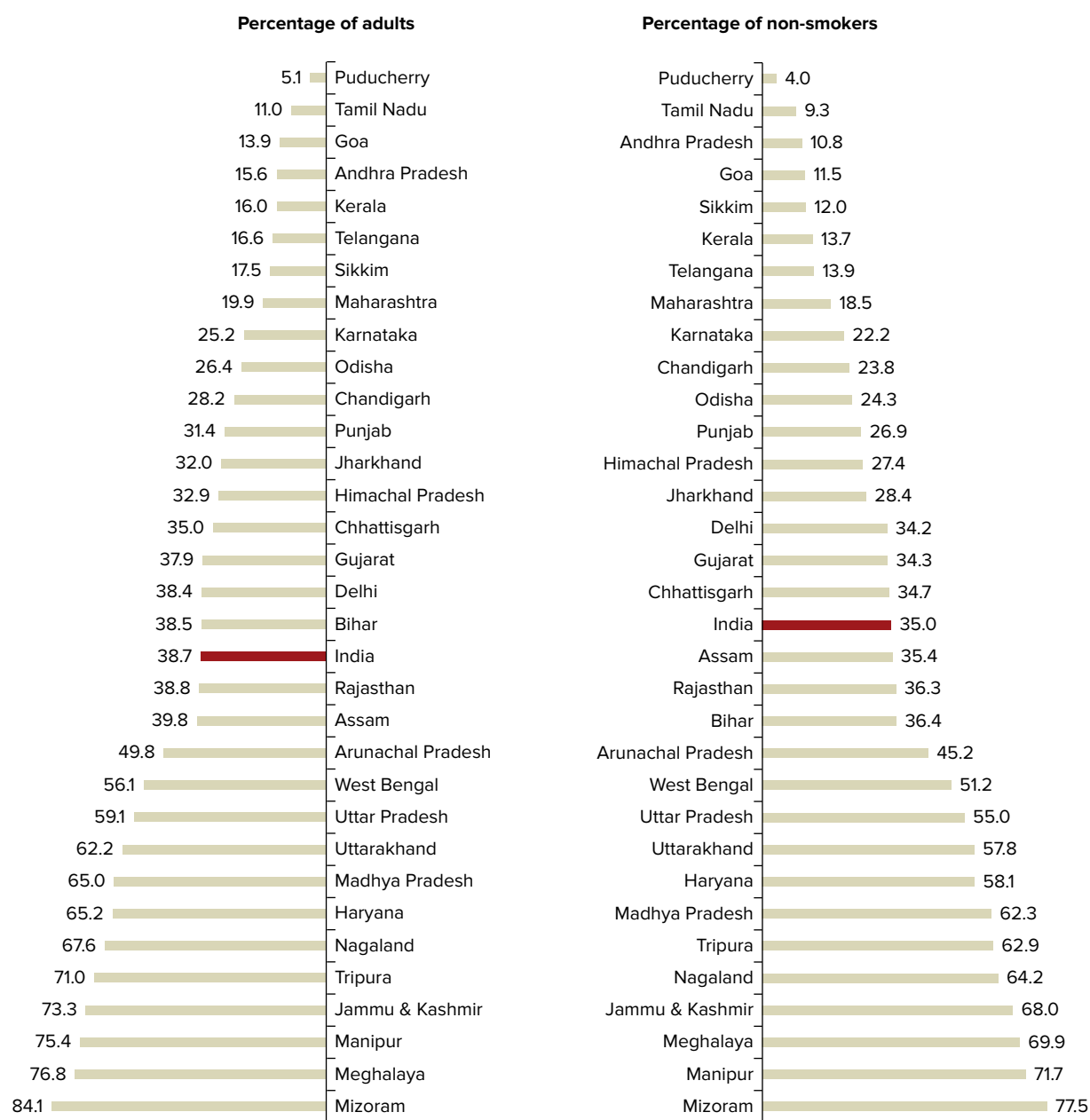
GATS 2 collected data on exposure to SHS during 30 days prior to survey, at seven different categories of public places: 1) government building/ Government office; 2) healthcare facility; 3) private offices/ workplaces other than respondent's office; 4) restaurant/ public eating places; 5) public transportation; 6) night club/ bar; and 7) cinema hall/ theatre.

Table 6.3 and Appendix Table A-6.3 provide data on exposure to SHS at various public places among adults aged 15 and above, during 30 days preceding the survey. The findings are presented according to background characteristics of respondents and states/UTs respectively.

### 6.3.1 Exposure to Second hand smoke at various public places by the background characteristics

Exposure to SHS among all adults in the seven categories public places ranges between 2.1 percent in bar/night club and 2.2 percent in cinema hall/ theatre to 13.3 in public transportation. The proportion of the adults exposed to second hand smoke at government buildings/offices is 5.3 percent; at healthcare facilities, it is 5.6 percent. One in four (25.7%) of all adults are exposed to SHS in at least one of these seven public places.

**Figure 6.2:** Percentage of adults exposed to second hand smoke at home for all adults and non-smokers by states/UTs, GATS 2 India, 2016-17



It may be noted that these percentages are the result of two proportions: a) the proportion of adults who visited these places, and b) exposure to SHS among those who visited these places. Table 6.3 presents the findings on exposure to SHS at various public places among all adults and those who visited these places in the 30 days preceding the survey.

Exposure to SHS at places of entertainment, like restaurants (39.3%), bars (79.2%) and cinema

halls/theatres (35.4%) is quite high. In night clubs/bars, smoking is quite rampant. However, since only a limited number of people visit bars/night clubs, the extent of exposure to SHS among all adults there is quite low. At the same time, a large proportion of adults visit healthcare facilities or travel by public transportation; hence, exposure to SHS among all adults there is relatively high. One in six adults (15.6%) who visited a health care facility during the last 30 days prior to the survey was exposed to SHS there.



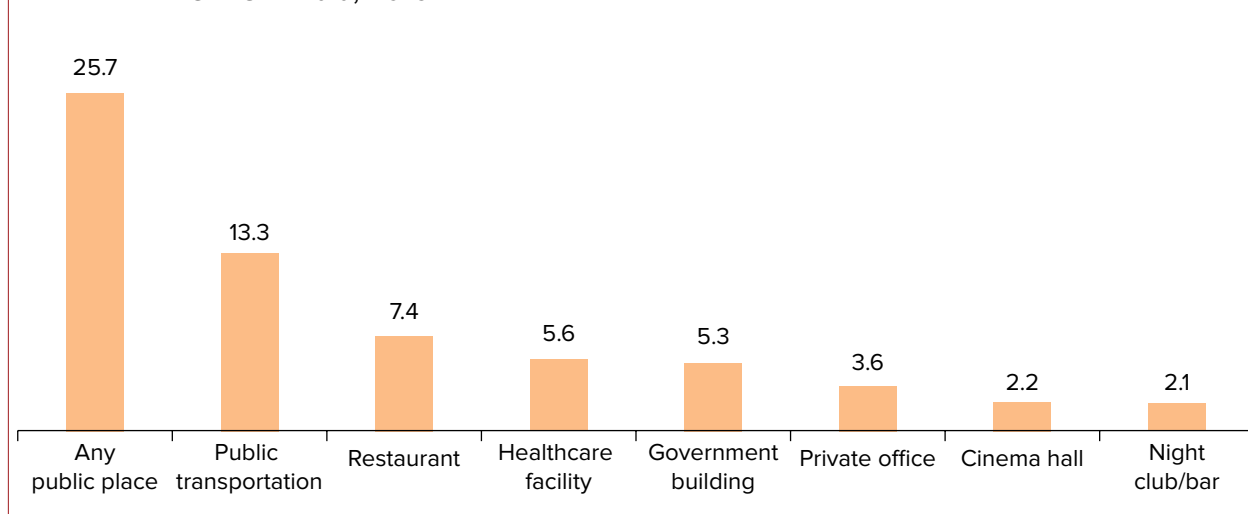
**Table 6.3:** Percentage of adults aged 15 or above who reported exposure to second hand smoke at public places, GATS 2 India, 2016-17

Exposure to second hand smoke at	Among those who visited	Among all adults
Government office/ Government building	21.2	5.3
Health care facility	15.6	5.6
Restaurant/ public eating place	39.3	7.4
Public transportation	27.0	13.3
Private office/ workplace	24.1	3.6
Night club/ bar	79.2	2.1
Cinema hall/ theatre	35.4	2.2
Any of the above seven places	36.2	25.7

Exposure to SHS at different public places is least among adults aged 65 years or older, partly due to their limited mobility. The proportion of adults exposed to SHS in any of the seven public places decreases from 28.1 percent among persons aged 15-24 years to 15.5 percent among the elderly aged 65 or above. Urban-rural differentials in exposure to SHS at all public places are quite narrow. At each of the seven public places, a higher proportion of men than women are exposed to SHS; this, again has to do, partly, with men's higher mobility. More than one-third (35.7%) of men and 15.2 percent women are exposed to SHS at any of the seven

public places. With increase in the level of education, there is an increase in exposure to SHS at each of the seven public places. The proportion of adults exposed to SHS at any of the seven public places increases from 18.0 percent among persons with no formal schooling to 30.9 percent among those with secondary or above education. Among adults engaged in different occupations, exposure to SHS at public places is highest among government of non-government employees (38.3%). About one-third of self-employed persons (29.8%) and students (31.8%) are also exposed to SHS at public places (Table 6.4).

**Figure 6.3:** Percentage of adults exposed to second hand smoke at different public places, GATS 2 India, 2016-17



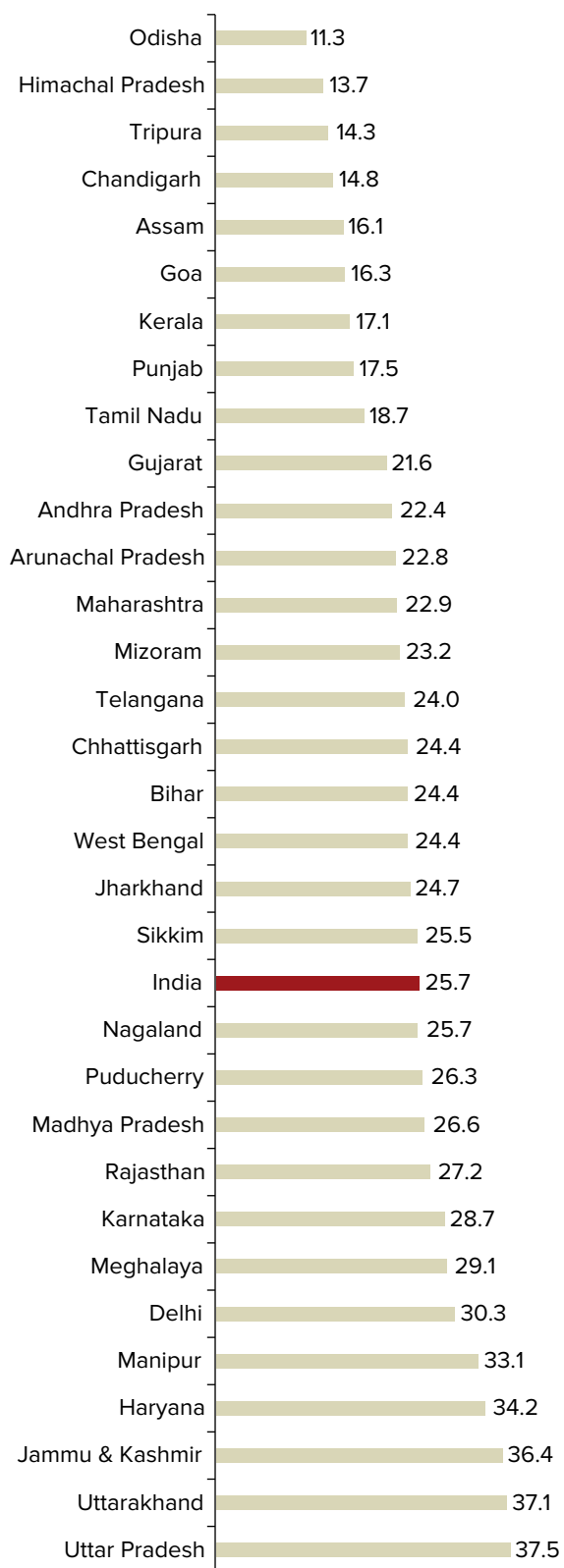
**Table 6.4:** Percentage of adults aged 15 or above who were exposed to second hand smoke in public places in the past 30 days by background characteristics, GATS 2 India, 2016-17

Background characteristic	Percentage of adults exposed to second hand smoke at							
	Government building	Health care facility	Restaurant	Public transport	Private office	Bar	Cinema	Any of seven public places
<b>Overall</b>	5.3	5.6	7.4	13.3	3.6	2.1	2.2	25.7
<b>Age</b>								
15-24	5.1	5.2	8.7	15.7	3.4	1.3	3.5	28.1
25-44	5.5	5.9	8.6	13.4	4.0	3.0	2.4	27.4
45-64	6.0	5.9	5.7	12.4	3.7	2.0	0.9	23.4
65 +	3.4	4.4	2.8	8.1	2.1	0.8	0.5	15.5
<b>Residence</b>								
Urban	5.9	5.7	8.4	13.0	5.0	2.5	3.5	27.4
Rural	5.0	5.5	7.0	13.5	2.9	2.0	1.6	24.8
<b>Gender</b>								
Men	8.1	6.8	13.0	16.6	5.8	4.1	3.9	35.7
Women	2.4	4.4	1.6	9.9	1.4	0.1	0.4	15.2
<b>Education</b>								
No formal schooling	2.8	4.3	3.6	10.8	1.5	1.5	0.6	18.0
Less than primary	4.1	5.9	6.5	12.7	3.1	2.3	1.4	24.1
Primary, but less than secondary	5.6	6.5	7.9	13.4	3.3	2.3	1.8	26.6
Secondary or above	7.3	5.8	10.1	15.3	5.5	2.4	3.9	30.9
<b>Occupation</b>								
Government and non-government employee	10.3	6.6	13.9	16.7	9.5	4.5	4.6	38.3
Self employed	6.1	6.3	9.9	14.7	3.9	3.5	2.6	29.8
Student	6.8	5.8	10.2	17.8	3.6	0.8	4.2	31.8
Home maker	1.9	4.4	1.3	9.3	1.0	0.1	0.3	14.2
Retired or unemployed	5.3	4.8	4.7	9.2	3.8	1.4	0.9	20.2

The extent of exposure to SHS at various public places varies across states/UTs (Figure 6.4 and Appendix Table A-6.3), much like the variation in exposure to second hand smoke at home and the workplace. In five states—Uttar Pradesh, Uttarakhand, Jammu & Kashmir, Haryana and

Manipur—one in every three (33-38%) adults are exposed to SHS in public places. The reason for high exposure to SHS at public places could be attributed to respondents' high use of public transportation, visits to healthcare facilities and/or government offices/ buildings.

**Figure 6.4:** Percentage of adults exposed to second hand smoke at any public place by states/UTs, GATS 2 India, 2016-17



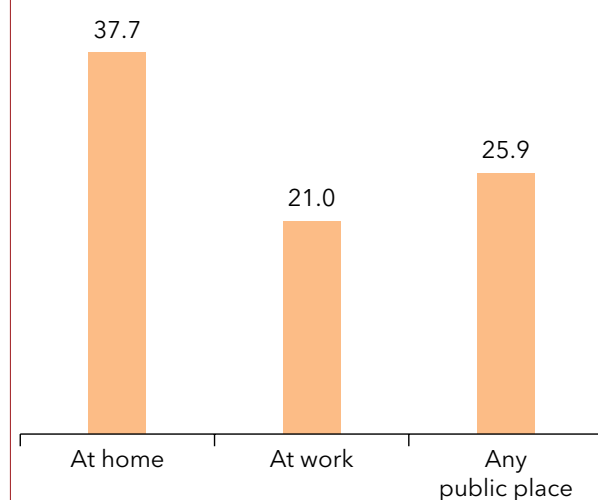
## 6.4 EXPOSURE TO SECOND HAND SMOKE DURING PREGNANCY

Figure 6.5 presents the findings on the proportion of currently pregnant women exposed to SHS during the 30 days prior to the survey, at home as well as any of the seven public places discussed above. Appendix table A-6.4 shows the variation in pregnant women's exposure to SHS across states/UTs.

Nationally, 37.7 percent pregnant women were exposed to SHS at home during the one month preceding the survey; 21.0 percent pregnant women were exposed to SHS at their workplace; and 25.9 percent were exposed to SHS at any of the seven in public places.

In Mizoram, Manipur, Meghalaya, Arunachal Pradesh and Jammu & Kashmir, where prevalence of smoking is high and a large proportion of households allow smoking, 60 percent or more of women who are pregnant women are exposed to SHS. In Jammu & Kashmir, Haryana, Madhya Pradesh, Nagaland and Meghalaya, more than 50 percent pregnant women are exposed to SHS in public places.

**Figure 6.5:** Percentage of pregnant women exposed to second hand smoke, GATS 2 India, 2016-17



## 6.5 CHANGE IN EXPOSURE TO SECOND HAND SMOKE AT VARIOUS PLACES; GATS 1 TO GATS 2

### 6.5.1 Change in SHS at workplace

The law enforcing ban on smoking in public places was enacted in 2008 and was modified in 2009. Immediately after the law was implemented, GATS 1 was conducted in 2009-10. Now, seven years after GATS 1, the difference in SHS exposure from GATS 1 to GATS 2 data may reflect the impact of law enforcement as well as increased public awareness. In this section, changes in exposure to SHS in enclosed workplaces, homes and public places are discussed.

The difference in exposure to SHS among all adults and non-smokers at their workplaces, according to selected characteristics of respondents, are shown in Table 6.5 below.

There is a small increase in exposure to SHS at the workplace among all adults as well as among non-smokers from GATS 1 to GATS 2. However, the increase is not statistically significant. Increase in exposure to SHS at workplaces has been observed in rural areas as well, and this increase among all respondents in rural areas is statistically significant. On the contrary, in urban areas, there is a significant decrease in the exposure to SHS among all respondents and among non-smokers. This could be due to awareness regarding ban on smoking at private and public work places, or better implementation of the Act in urban than rural areas.

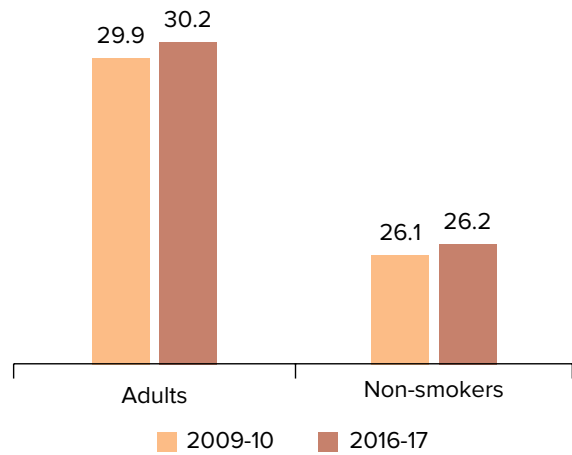
**Table 6.5:** Change in percentage of adults exposed to SHS at work<sup>1</sup> by smoking status and according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Background characteristic	Percentage of adults exposed to SHS at work <sup>1</sup>					
	Overall			Non-smoker		
	GATS 1 2009-10	GATS 2 2016-17	Relative change	GATS 1 2009-10	GATS 2 2016-17	Relative change
Overall	29.9	30.2	1.0	26.1	26.2	0.4
<b>Gender</b>						
Men	32.2	32.7	1.6	28.1	28.3	0.7
Women	19.4	17.9	-7.7	18.9	17.7	-6.3
<b>Residence</b>						
Urban	27.6	25.3	-8.3**	24.3	22.7	-6.6**
Rural	32.1	34.3	6.9**	27.8	29.4	5.8
<b>Age (years)</b>						
15-24	27.7	28.5	2.9	25.6	27.1	5.9
25-44	30.6	30.7	0.3	26.9	26.8	-0.4
45-64	30.3	30.3	0.0	24.2	23.8	-1.7
65+	31.4	31.7	1.0	27.2	26.1	-4.0

**Note:** 1 In the past 30 days among those respondents who work outside of the home who usually work indoors or both indoors and outdoors.

Statistically significant: \* p < .05 \*\*p < .01

**Figure 6.6:** Change in percentage of adults exposed to second hand smoke at work in the past 30 days by smoking status, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



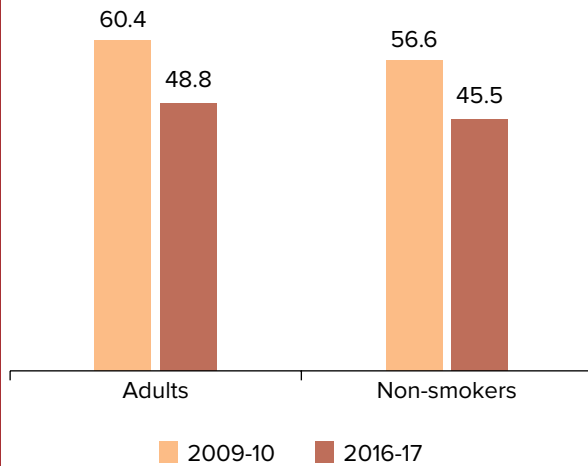
No significant change was observed in the exposure to SHS at workplace among all adults and among non-smoker men and women and in all the four age-groups.

### 6.5.2 Change in SHS at home

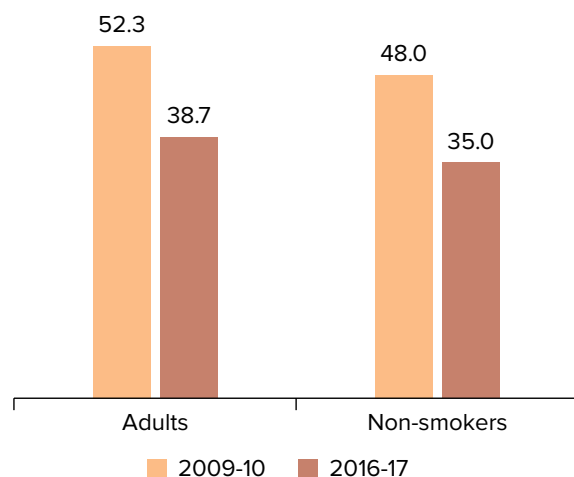
Table 6.6 presents the difference in exposure to SHS among all adults and among non-smokers at home, according to selected characteristics. In GATS 1, 60.4 percent of all respondents and 56.6 percent non-smokers reported that smoking was allowed inside their home. In GATS 2, there is statistically significant reduction in all these proportions. In GATS 2, 48.8 percent of all respondents and 45.5 percent of smokers reported that smoking is allowed inside their home (Not shown in table). As seen in Table 6.6, there is a relative reduction of 26-27 percent in exposure to SHS at home.

Exposure to SHS at home, in urban and rural areas, as well as among men, women and adults from all age-groups, is relatively lower, in the range of 23-29 percent, than GATS 1. In each sub-group based on age, residence, and gender, the reduction in exposure to SHS at home is statistically significant among all adults and among non-smokers.

**Figure 6.7:** Change in percentage of adults who reported smoking is allowed at home among all adults and non-smokers, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



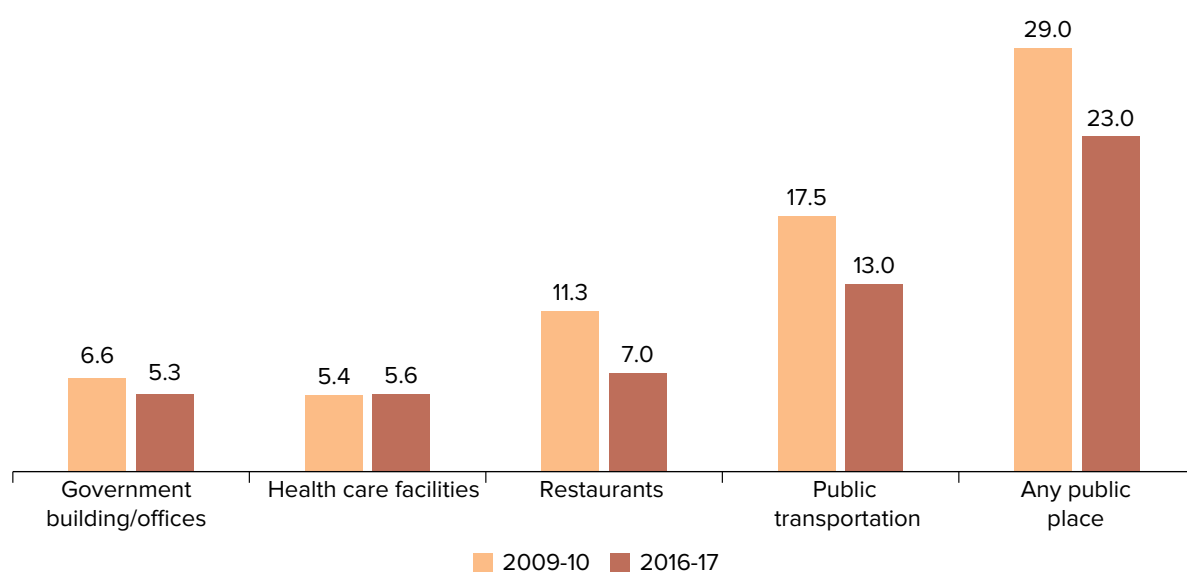
**Figure 6.8:** Change in percentage of adults exposed to second hand smoke at home among all adults and non-smokers, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



### 6.5.3 Change in SHS at public places

Changes in exposure to SHS between GATS 1 and GATS 2 among all adults at four public places—1) government office/building; 2) healthcare facility; 3) restaurant;

**Figure 6.9:** Change in exposure to second hand smoke at different public places among all adults, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Table 6.6:** Change in percentage of adults exposed to SHS at home by smoking status, according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Percentage of adults exposed to SHS at home					
	Overall			Non-smoker		
	GATS 1 2009-10	GATS 2 2016-17	Relative change	GATS 1 2009-10	GATS 2 2016-17	Relative change
<b>Overall</b>	52.3	38.7	-26.0**	48.0	35.0	-27.1**
<b>Gender</b>						
Men	52.2	38.1	-27.0**	43.9	31.0	-29.4**
Women	52.5	39.3	-25.1**	51.3	38.4	-25.1**
<b>Residence</b>						
Urban	38.5	27.9	-27.5**	34.5	25.0	-27.5**
Rural	58.0	44.4	-23.4**	53.7	40.4	-24.8**
<b>Age (years)</b>						
15-24	51.9	38.6	-25.6**	50.9	37.9	-25.5**
25-44	52.2	38.6	-26.1**	47.8	34.8	-27.2**
45-64	53.0	39.0	-26.4**	44.3	32.4	-26.9**
65+	52.7	38.5	-26.9**	44.9	31.9	-29.0**

Note: \*p< 0.05, \*\* p<0.01

and 4) public transportation—are presented according to select characteristics of respondents in Table 6.7. Although GATS 2 collected data on exposure to SHS at seven different places, in GATS 1, SHS data was available for four public places only; hence, the comparison is limited to four public places.

Between GATS 1 to GATS 2, there has been sizeable relative reduction in exposure to SHS at government offices/ buildings (20%), restaurants (35%), and public transportation (24%). The decrease in prevalence of SHS exposure at these three public places is statistically significant, and holds true for urban as well as rural areas.

On the other hand, there is a small increase in SHS exposure at healthcare facilities; however, this increase is not statistically significant. In other words, in the seven years intervening GATS 1 and GATS 2, prevalence of exposure to SHS at healthcare facilities has remained unchanged. In urban areas, there is a slight reduction in parameter, but it is not statistically significant. On the contrary, in rural areas, SHS exposure at healthcare facilities has gone up significantly (at 5% level of significance).

## Summary and Conclusions

- ❖ GATS 2 shows that in almost half (48.8%) of the households in the country, smoking

**Table 6.7:** Change in percentage of adults exposed to SHS at different public places in the past 30 days, according to background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Percentage of all adults exposed to SHS at											
	Government building/ office			Health care facility			Restaurant			Public transportation		
	GATS 1 2009-10	GATS 2 2016-17	Relative change	GATS 1 2009-10	GATS 2 2016-17	Relative change	GATS 1 2009-10	GATS 2 2016-17	Relative change	GATS 1 2009-10	GATS 2 2016-17	Relative change
<b>Overall</b>	6.6	5.3	-19.7**	5.4	5.6	3.7	11.3	7.4	-34.5**	17.5	13.3	-24.0**
<b>Gender</b>												
Men	10.3	8.1	-21.4**	6.0	6.8	13.3**	19.2	13.0	-32.3**	22.0	16.6	-24.5**
Women	2.6	2.4	-7.7	4.8	4.4	-8.3**	2.8	1.6	-42.9**	12.6	9.9	-21.4**
<b>Residence</b>												
Urban	7.9	5.9	-25.3**	5.8	5.7	-1.7	14.0	8.4	-40.0**	17.9	13.0	-27.4**
Rural	6.1	5.0	-18.0**	5.3	5.6	5.7*	10.2	7.0	-31.4**	17.3	13.5	-22.0**
<b>Age (years)</b>												
15-24	6.5	5.1	-21.5**	4.3	5.2	20.9**	13.1	8.7	-33.6**	19.7	15.7	-20.3**
25-44	7.0	5.5	-21.4**	6.1	5.9	-3.3	12.4	8.6	-30.6**	18.1	13.4	-26.0**
45-64	6.8	6.0	-11.8**	5.9	5.9	0.0	9.0	5.7	-36.7**	15.3	12.4	-19.0**
65+	3.9	3.4	-12.8	4.7	4.4	-6.4	4.2	2.8	-33.3**	10.8	8.1	-25.0**

Note: \*p< 0.05, \*\* p<0.01



is allowed inside the house. More than one-third (35.0%) of non-smokers are exposed to Second Hand Smoke (SHS) at home. Though these rates of exposure are high, they are significantly less than the rates of exposure recorded in GATS 1 (48.0% for non-smokers).

- ❖ Among non-smokers who work indoors, 26.2 percent were exposed to SHS at the workplace in the 30 days prior to the survey; this is almost the same level as in GATS 1.
- ❖ 25.7 percent of all adults are exposed to second hand smoke in one out of seven public places-government buildings,

private workplace, healthcare facility, restaurants, bar/ night club and cinema hall. Though the highest rate of SHS exposure is in bars, the largest source of SHS exposure is public transportation; this is because a larger proportion of the population availed the latter facility.

The level of exposure to SHS at the workplace, home and in public places varies widely across states. While there is a good downward trend in exposure at home and a modest decrease in exposure in public places, the lack of improvement in exposure to SHS in the workplace and healthcare facility is a matter of considerable concern.

## CHAPTER 7

# ECONOMIC ASPECTS OF TOBACCO USE



The economic aspects of tobacco use has multiple dimensions, as a number of stakeholders are involved in it. India is one of the largest tobacco producing countries<sup>(33)</sup> and tobacco is an important commercial crop. It contributes \$900 million in the form of foreign exchange and \$3.4 billion in the form of excise levied on manufactured tobacco. Tobacco farming provides employment to 36 million people<sup>(34)</sup>. Besides farming, many women and children are engaged in manufacturing *bidis* and various forms of smokeless tobacco products at home. It is estimated that *bidi* manufacturing provides employment to more than 4.4 million workers in India<sup>(35)</sup>. At the same time, tobacco consumption imposes high direct and indirect costs on the national economy in the form of treatment for a number of non-communicable diseases attributable to tobacco smoking and use of smokeless tobacco.

According to Ministry of Health & Family Welfare (MoHFW), Government of India, the total economic costs attributable to tobacco use from all diseases in India in year 2011, for persons aged 35-69 years, amounted to Rs 1,04,500 crore (\$22.4 billion). Of this amount, 16 percent was direct costs and 84 percent was indirect costs. The direct medical costs on account of hospital care and treatment for diseases attributable to tobacco was Rs. 16,800 crore (\$3.1 billion); the associated indirect morbidity costs were Rs 14,700 crores (\$3.1 billion). The costs of premature mortality was an estimated Rs 73,000 crore (\$15.6 billion)<sup>(36)</sup>.

Households of tobacco users incur expenses on buying tobacco products. GATS 1 provided

estimates of monthly expenditure on cigarettes and *bidis*. Data collected at the household level nationally by NSSO in 2011-12 shows that expense on tobacco procurement comprises approximately two percent of all expenditure tertiles<sup>(37)</sup>.

Although multiple dimensions exist in the economic aspects of tobacco use, GATS 2 does not attempt to explore the issue from the economic angle. Instead, it explores two aspects of the economics of tobacco use, much like GATS 1: a) source or place of purchasing cigarette, *bidi* and smokeless tobacco, and b) expenditure incurred by cigarette, *bidi* smokers and smokeless tobacco users, on a monthly basis as well as on the last purchase of these products.

## 7.1 SOURCE OF LAST PURCHASE OF CIGARETTE

GATS 2 India collected information on source of the most recent cigarette purchase prior to the survey from all cigarette smokers. Percent distribution of current cigarette smokers by source of last purchased cigarettes according to selected background characteristics is shown in Table 7.1. The Figure 7.1 and Table 7.1 show that over half (50.8%) of current cigarette smokers in the country bought their last cigarettes from a store. The other prominent places of cigarette purchase are kiosks/*paan* shops (38.7%) and street vendors (9.2%). A small proportion of cigarette smokers purchased cigarettes from other sources, including vending machines, military stores,

\* Adults wherever used in the text refers to persons aged 15 or above.

duty free shops, outside country purchases, and purchases from another person/place. The pattern is similar in rural as well as urban areas; in both, more than half of the smokers bought cigarettes from the store and 38-40 percent bought cigarettes from kiosks/*paan* shops. One-third of female smokers bought cigarettes from sources other than stores, street vendors and kiosks/*paan* shops.

Section 6 of the Cigarettes and Other Tobacco Products Act (COTPA) deals with prohibition

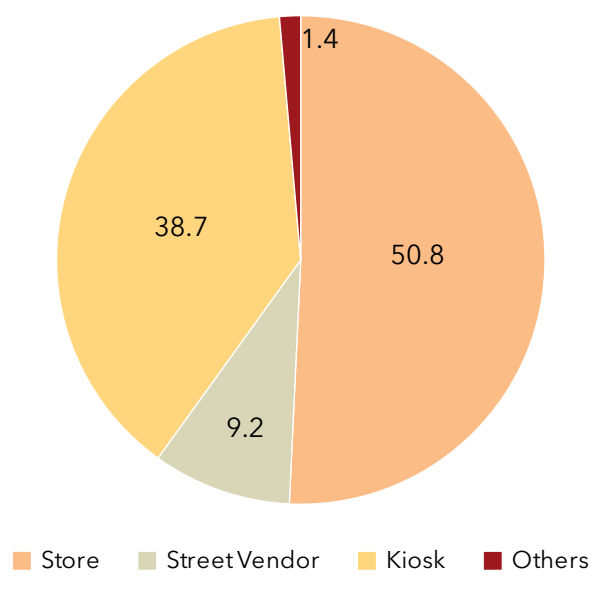
of tobacco sale to minors or sale of tobacco around educational institutes. According to the amended Juvenile Justice (Care and Protection of Children) Act 2015, those selling tobacco products or cigarettes to minors are liable for stringent punishment, including a jail term of seven years and/or a fine of Rs one lakh; the earlier fine under COTPA was of Rs 200. GATS 2 reveals that 81.5 percent of current cigarette smokers aged 15–17 years buy cigarettes from kiosks/*paan* shops and 16.7 percent are able to buy cigarettes from a store. A majority (57%)

**Table 7.1:** Percent distribution of current cigarette smokers aged 15 or above by source of last purchase of cigarette by background characteristics, GATS 2 India, 2016-17

Background characteristic	Store	Street vendor	Kiosk/ paan shop	Others <sup>1</sup>	Total
Overall	50.8	9.2	38.7	1.4	100
<b>Gender</b>					
Men	50.9	9.2	39.0	0.9	100
Women	39.2	9.3	17.3	34.2	100
<b>Age</b>					
15-17	16.7	0.8	81.5	1.0	100
18-24	36.6	6.5	56.6	0.3	100
25+	53.9	9.8	34.8	1.6	100
<b>Residence</b>					
Urban	49.5	8.6	39.9	2.0	100
Rural	51.9	9.7	37.7	0.8	100
<b>Education level</b>					
No formal schooling	49.4	12.5	37.6	0.5	100
Less than primary	57.2	10.4	31.3	1.2	100
Primary but less than secondary	47.0	8.2	44.4	0.4	100
Secondary and above	52.3	8.4	36.7	2.5	100
<b>Occupation</b>					
Government and non-government employee	51.8	9.1	37.1	2.1	100
Self employed	50.0	9.4	40.2	0.5	100
Student	46.5	4.9	37.9	10.8	100
Home maker	65.7	7.9	24.3	2.1	100
Retired or unemployed	55.1	10.5	32.8	1.6	100

Note: 1 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

**Figure 7.1:** Percent distribution of current cigarette smokers by source of the last purchase of cigarette, GATS 2 India, 2016-17



of smokers aged 18-24 years buy cigarettes from kiosks/*paan* shops. There is no specific relationship between the education level and occupational category of the smoker and the place of last purchase of cigarettes. Notably, 10.8 percent students bought cigarettes from other sources; probably their friends.

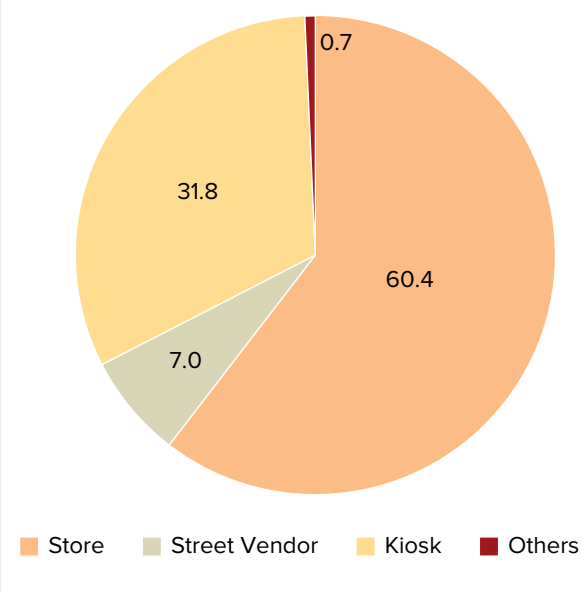
The variation in the place of last purchase of cigarette across states/UTs is evident in Appendix Table A-7.1. Although half of current cigarette smokers purchased cigarettes from the store nationally, in states like Rajasthan (98%), Mizoram (94%), Himachal Pradesh (92%), Jammu & Kashmir (87%), Punjab (85%) and Tamil Nadu (81%), more than 80 percent cigarette smokers bought cigarettes from stores. In comparison to other states, in Tripura (65%), Arunachal Pradesh (45%), Nagaland (45%) and Andhra Pradesh (35%), one-third or more cigarette smokers bought cigarettes from street vendors. In Odisha (83%), Manipur (77%), Madhya Pradesh (67%), and Maharashtra (66%), kiosk/ *paan* shop is the main source of cigarette from where two-thirds or more cigarette smokers bought cigarettes.

## 7.2 SOURCE OF LAST PURCHASE OF *BIDIS*

Information on the source of last purchase of *bidi* according to background characteristics of users is presented in Table 7.2 and Figure 7.2. The pattern of distribution of place of last purchase of *bidi* is more or less similar to that of the place of last purchase of cigarette. A large proportion of *bidi* smokers bought *bidis* from stores (60.4%); about one-third (31.8%) bought it from kiosks/*paan* shops and a small proportion (7.0%) bought it from street vendors. In comparison to men, a higher proportion of women bought *bidis* from stores (71.4% women vs 59.6% men) and lower proportion bought *bidis* from kiosk/*paan* shops (21.5% women vs 32.6% men). Similarly, relatively higher proportion *bidi* smokers from rural areas bought *bidis* from stores (62.3% from rural areas vs 53.6% from urban areas); lower proportion bought *bidis* from kiosk/*paan* shops (30.2% from rural areas vs 38.1% from urban areas).

In spite of the ban on selling tobacco products to minors, 47.9 percent of *bidi* smokers aged 15-17 years bought *bidis* from kiosk/*paan* shops and

**Figure 7.2:** Percent distribution of current *bidi* smokers by source of the last purchase of *bidi*, GATS 2 India, 2016-17



28.2 percent bought it from stores. About one-fourth (23.9%) of them bought *bidis* from street vendors. *Bidi* smokers aged 18 or above primarily bought *bidis* from stores (61-62%). The proportion of *bidi* smokers who bought *bidis* from stores decreases with increase in education, while the proportion who bought *bidis* from kiosk/*paan* shop increases; however, the difference in the place of *bidi* purchase with increase in education level is quite small. Relatively higher proportion of home-maker *bidi* smokers bought *bidis* from stores (72.8%) and lesser proportion of them bought *bidis* from kiosk/ *paan* shops (22.0%).

Variation in the place of last purchase of *bidi* across states/ UTs is quite similar to the variation in the place of last purchase of cigarette (Appendix Table A-7.2). In Jammu & Kashmir, Rajasthan and Himachal Pradesh (98%), almost all *bidi* smokers bought *bidis* from stores. Even in Kerala (87%), Goa (84%), Jharkhand (83%) and Chhattisgarh (80%), more than 80 percent *bidi* smokers bought *bidis* from stores. Only in Tripura (63%) and Puducherry (40%), more than one-third of *bidi* smokers bought *bidis* from street vendors. A majority of *bidi* smokers in Odisha (73%), Manipur (69%), Nagaland (62%),

**Table 7.2:** Percent distribution of current *bidi* smokers aged 15 or above by source of last purchase of *bidi* according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Store	Street vendor	Kiosk/ paan shop	Others <sup>1</sup>	Total
Overall	60.4	7.0	31.8	0.7	100
<b>Gender</b>					
Male	59.6	7.3	32.6	0.5	100
Female	71.4	3.2	21.5	3.9	100
<b>Age</b>					
15-17	28.2	23.9	47.9	0.0	100
18-24	61.5	7.2	29.2	2.1	100
25+	60.5	6.9	31.9	0.7	100
<b>Residence</b>					
Urban	53.6	7.9	38.1	0.4	100
Rural	62.3	6.8	30.2	0.8	100
<b>Education level</b>					
No formal schooling	62.6	6.4	30.0	1.0	100
Less than primary	60.1	8.2	31.0	0.7	100
Primary but less than secondary	58.5	7.4	33.5	0.6	100
Secondary and above	58.7	6.6	34.4	0.2	100
<b>Occupation</b>					
Government and non-government employee	61.6	6.4	31.6	0.4	100
Self employed	58.3	7.4	33.8	0.6	100
Student	63.7	2.6	33.4	0.3	100
Home maker	72.8	2.9	22.0	2.4	100
Retired or unemployed	69.4	7.2	22.2	1.2	100

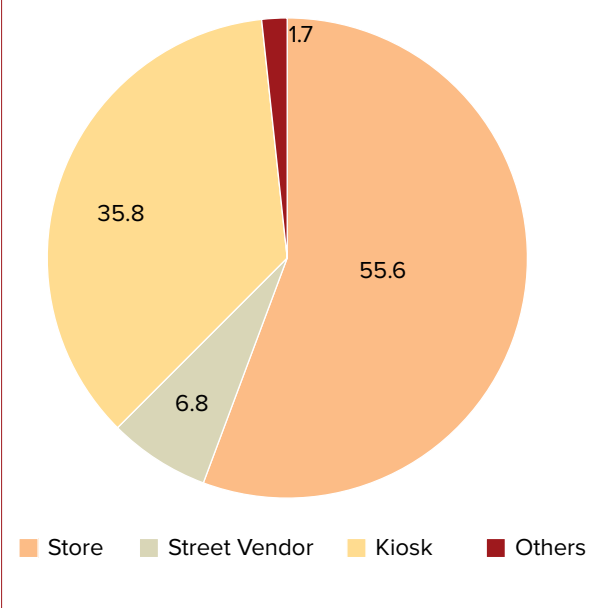
Note: 1 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

West Bengal (58%), Meghalaya (56%) and Karnataka and Sikkim (50% in both) purchased *bidis* from kiosk/ *paan* shops.

### 7.3 SOURCE OF LAST PURCHASE OF SMOKELESS TOBACCO

The distribution of place of last purchase of smokeless tobacco is also similar to the distribution of place of last purchase of cigarette and *bidi*. A majority (55.6%) of smokeless tobacco users purchased tobacco from the store; 35.8 percent purchased it from kiosk/*paan* shops and seven percent bought it from street vendors (Figure 7.3 and Table 7.3). Differentials in the place of purchase of smokeless tobacco by residence or gender are almost similar to the differentials in place of purchase of cigarettes and *bidis*. Once again, despite the ban on selling tobacco products to minors, 60.4 percent of smokeless tobacco users aged 15-17 years bought smokeless tobacco products from stores and 28.8 percent bought it from kiosk/*paan* shops. The proportion of users who bought smokeless tobacco products from stores decreases with education; the proportion of buyers from kiosk/*paan* shops increases. Kiosk/*paan* shop is also main place of purchase of smokeless tobacco products for government and non-government employees and students; almost half (45.5%) of

**Figure 7.3:** Percent distribution of current smokeless tobacco users by source of the last purchase of smokeless tobacco, GATS 2 India, 2016-17



them buy tobacco from kiosk/*paan* shops. On the contrary, most (61.7%) home makers bought smokeless tobacco from a store and only 27.2 percent bought it from a kiosk/ *paan* shop.

The state/UT level variation in the place of last purchase of smokeless tobacco is similar to the variation in the place of last purchase of cigarette and *bidi* (Appendix Table A- 7.3).

**Table 7.3:** Percent distribution of current users of smokeless tobacco aged 15 or above by source of last purchase of smokeless tobacco, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Store	Street vendor	Kiosk/ <i>paan</i> shop	Others <sup>1</sup>	Total
Overall	55.6	6.8	35.8	1.7	100
<b>Gender</b>					
Male	53.5	5.7	40.2	0.6	100
Female	60.8	9.6	25.3	4.4	100
<b>Age</b>					
15-17	60.4	9.9	28.8	0.8	100
18-24	50.4	6.6	42.6	0.5	100
25+	56.3	6.8	34.9	1.9	100

Background characteristic	Store	Street vendor	Kiosk/ paan shop	Others <sup>1</sup>	Total
<b>Residence</b>					
Urban	49.9	7.1	41.5	1.5	100
Rural	57.5	6.8	33.9	1.8	100
<b>Education level</b>					
No formal schooling	59.9	7.9	29.4	2.8	100
Less than primary	56.1	7.1	35.5	1.4	100
Primary but less than secondary	54.8	6.3	38.0	1.0	100
Secondary and above	48.8	5.7	44.1	1.3	100
<b>Occupation</b>					
Government and non-government employee	48.8	5.2	45.5	0.5	100
Self employed	55.1	7.2	36.7	1.0	100
Student	48.6	5.1	45.7	0.6	100
Home maker	61.7	6.3	27.2	4.8	100
Retired or unemployed	57.9	8.0	30.9	3.2	100

Note: 1 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

## 7.4 EXPENDITURE ON SMOKING AND SMOKELESS TOBACCO

### 7.4.1 Average expenditure (in Rs) on tobacco during last purchase

GATS 2 collected data on expenditure incurred during the last purchase of cigarette, *bidi* and smokeless tobacco from all current cigarette and *bidi* smokers and smokeless tobacco users respectively. Table 7.4 presents the findings on expenditure incurred during the last such purchase according to selected characteristics of smokers/ smokeless tobacco users.

The quantity procured during the last purchase is not considered in the collected data. Hence, the average amount recorded in the survey is the average value of expenditure incurred on different qualities of tobacco products.

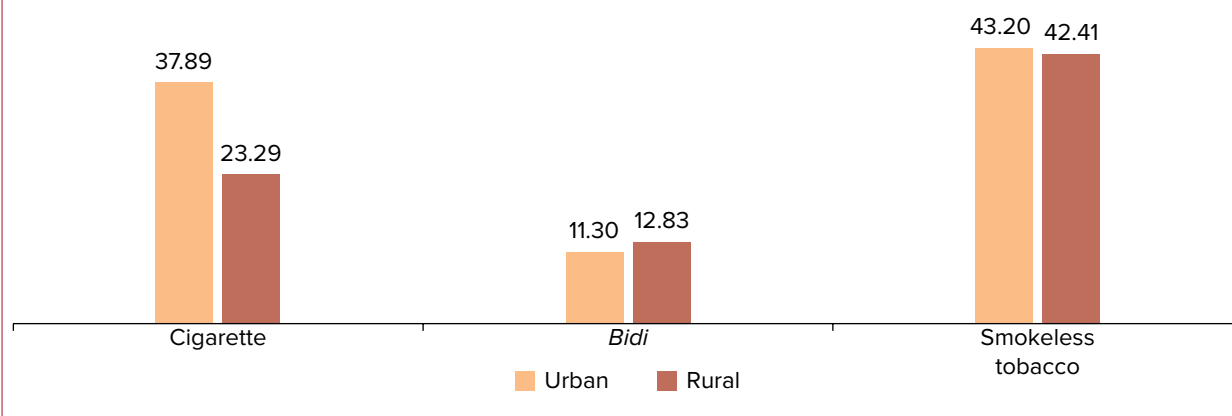
On an average, a cigarette smoker spent Rs 29.96 on the last cigarette purchase; smokeless tobacco users spent Rs 42.61 on the last purchase. Compared to the amount

spent on the purchase of the last cigarette/ smokeless tobacco, the amount spent by *bidi* smokers on last purchase (Rs 12.50) is much less. Female cigarette and *bidi* smokers spent Rs 1 and Rs 3 less on buying cigarettes and *bidis* respectively, whereas they spent Rs 11 more on buying smokeless tobacco. The average expenditure incurred by cigarette smokers and smokeless tobacco users from urban areas is higher than their rural counterparts (Rs 15 on cigarette and Rs 1 on smokeless tobacco), whereas for *bidi*, it is less in urban than rural areas by about Rs 2.

There is an increase in the expenditure incurred during last purchase of all the three tobacco products—cigarette, *bidi*, and smokeless tobacco—with increase in age. Expenses for cigarette smokers also increase with increase in education level. However, there is no specific pattern in the expenditure on *bidi* or smokeless tobacco. As regards occupational groups, government and non-government employees spend higher amounts on cigarettes (Rs 35) whereas home makers spend more on smokeless tobacco products (Rs 49). Students spent Rs 31.2 on cigarettes during their last purchase.



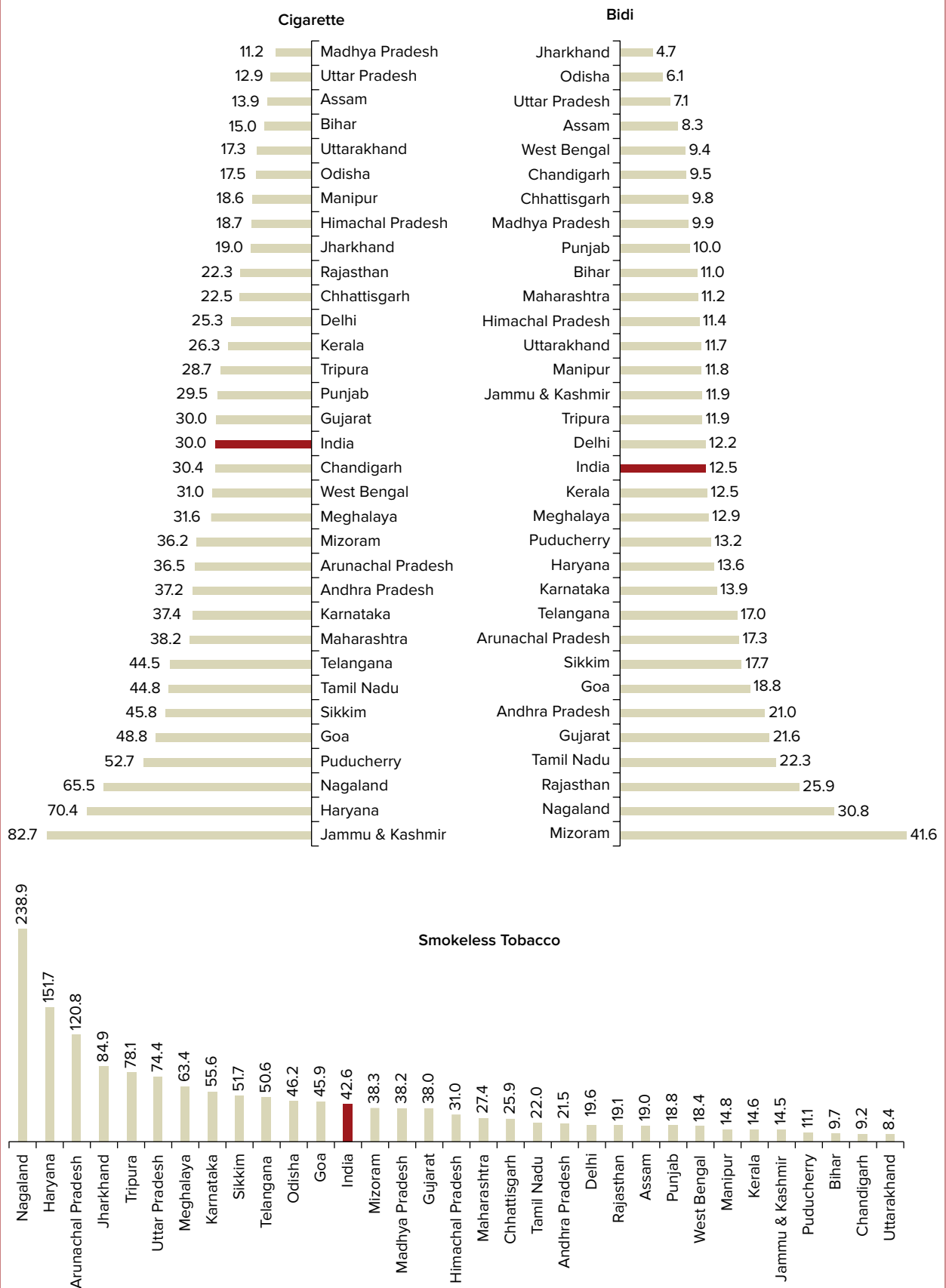
**Figure 7.4:** Average expenditure (in Rs) incurred by cigarette smoker on cigarette, *bidi* smoker on *bidi* and smokeless tobacco user on smokeless tobacco during the last purchase, according to residence, GATS 2 India, 2016-17



**Table 7.4:** Average tobacco expenditure (in Rs) in the last purchase incurred by current cigarette smoker, *bidi* smoker and smokeless tobacco users according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Tobacco expenditure in the last purchase (in Rs)		
	Cigarette	<i>Bidi</i>	Smokeless tobacco
<b>Overall</b>	29.96	12.50	42.61
<b>Gender</b>			
Men	30.00	12.60	39.37
Women	27.11	11.26	50.46
<b>Age</b>			
15-17	10.39	6.66	27.95
18-24	17.02	10.04	33.43
25+	32.63	12.66	44.13
<b>Residence</b>			
Urban	37.89	11.30	43.20
Rural	23.29	12.83	42.41
<b>Education level</b>			
No formal schooling	22.75	12.44	38.22
Less than primary	18.74	12.42	26.53
Primary but less than secondary	25.91	12.20	64.33
Secondary and above	39.06	13.49	25.70
<b>Occupation</b>			
Government and non-government employee	34.97	11.04	130.94
Self employed	28.48	12.50	26.16
Student	31.20	7.47	56.62
Home maker	21.38	12.63	49.04
Retired or unemployed	28.84	14.07	31.41

**Figure 7.5:** Average expenditure (in Rs) incurred by cigarette, *bidi* and smokeless tobacco during the last purchase among states/UTs, GATS 2 India, 2016-17



State/ UT wise data on expenditure incurred during the last purchase of cigarette, *bidi* and smokeless tobacco is presented in Appendix Table A-7.4.

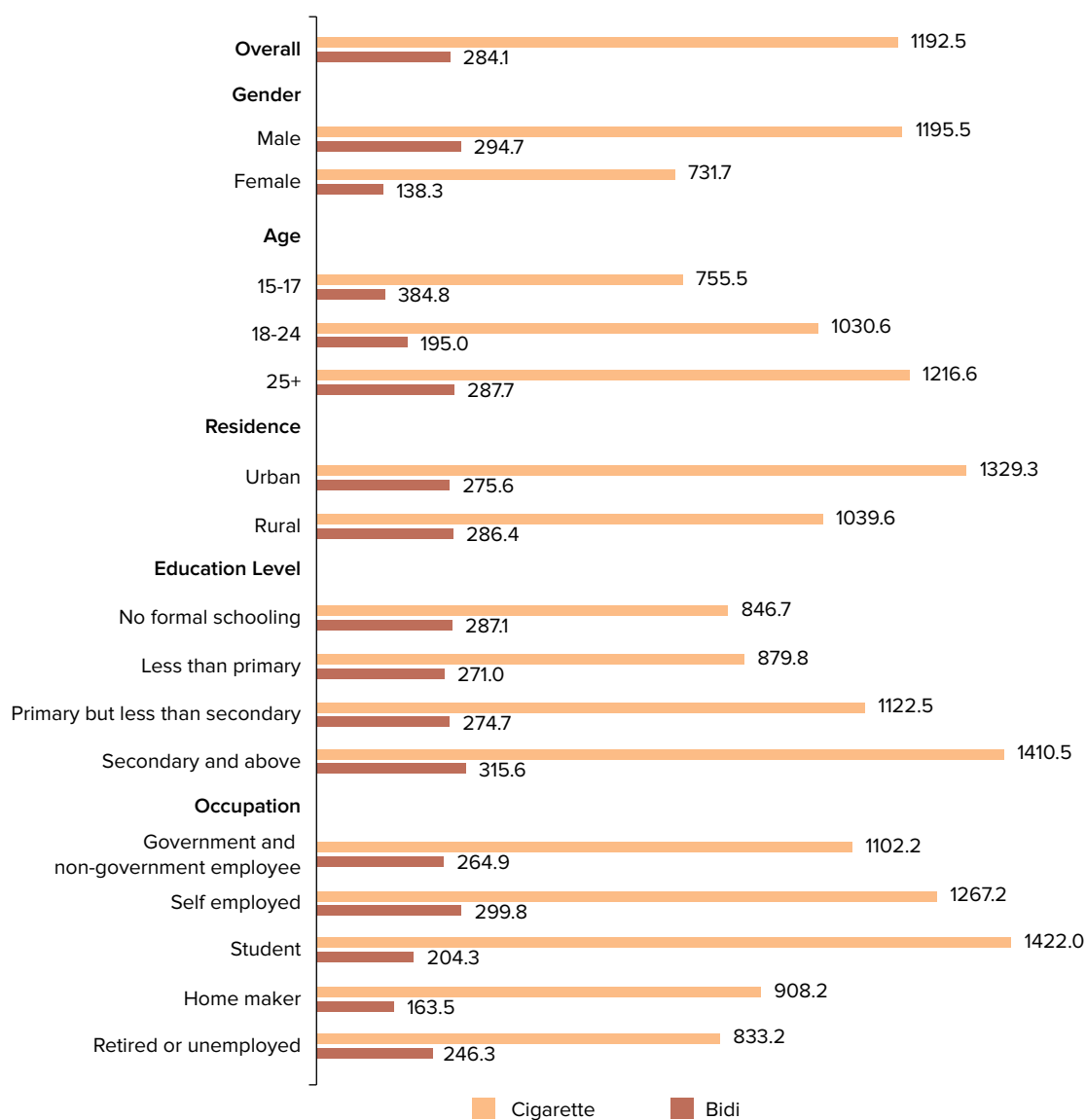
### 7.4.2 Average monthly expenditure (in Rs) on manufactured cigarette and *bidi*

Table 7.5 presents data on the estimated monthly expenditure of daily cigarette and *bidi* smokers on manufactured cigarette and *bidis* respectively. There was no direct question on

monthly expenditure in GATS 2. The figure in the table was arrived at indirectly, based on the following heads of data: 1) the average number of manufactured cigarettes/ *bidis* smoked per day by a daily cigarette/*bidi* smoker; 2) the number of manufactured cigarettes/ *bidis* bought during last purchase of these tobacco products; 3) the amount spent on last purchase.

The number of cigarettes/*bidis* smoked per month was obtained from the average number of manufactured cigarettes/*bidis* smoked per day. The total number of cigarettes/*bidis* smoked per month multiplied by the cost per

**Figure 7.6:** Average monthly expenditure (in Rs) incurred by cigarette, *bidi* smokers by background characteristics, GATS 2 India, 2016-17



**Table 7.5:** Average monthly expenditure (in Rs) incurred by daily smoker of manufactured cigarettes and *bidi* according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Monthly expenditure incurred by current smokers of manufactured cigarette and <i>bidi</i> (in Rs)	
	Cigarette	<i>Bidi</i>
Overall	1,192.45	284.12
<b>Gender</b>		
Men	1,195.53	294.73
Women	731.68	138.33
<b>Age</b>		
15-17	755.51*	384.79*
18-24	1,030.58	194.95
25+	1,216.60	287.69
<b>Residence</b>		
Urban	1,329.25	275.59
Rural	1,039.63	286.35
<b>Education level</b>		
No formal schooling	846.65	287.10
Less than primary	879.84	270.95
Primary but less than secondary	1,122.47	274.69
Secondary and above	1,410.51	315.60
<b>Occupation</b>		
Government and non-government employee	1,102.16	264.87
Self employed	1,267.17	299.83
Student	1,421.97	204.28*
Home maker	908.19	163.53
Retired or unemployed	833.23	246.28

Note: \* Less than 25 unweighted cases

cigarette/*bidi* provides the estimate average monthly expenditure on cigarette/*bidi* by daily smokers.

A daily cigarette smoker in India spends Rs 1192.45 per month on an average on manufactured cigarettes; a daily *bidi* smoker spends Rs 284.12 per month on *bidis*. Female smokers spend smaller amounts on cigarettes as well as *bidis* on a monthly basis. However, it may be noted that the number of cigarettes/*bidis* smoked per day by a daily female smoker is much less than that by a male smoker

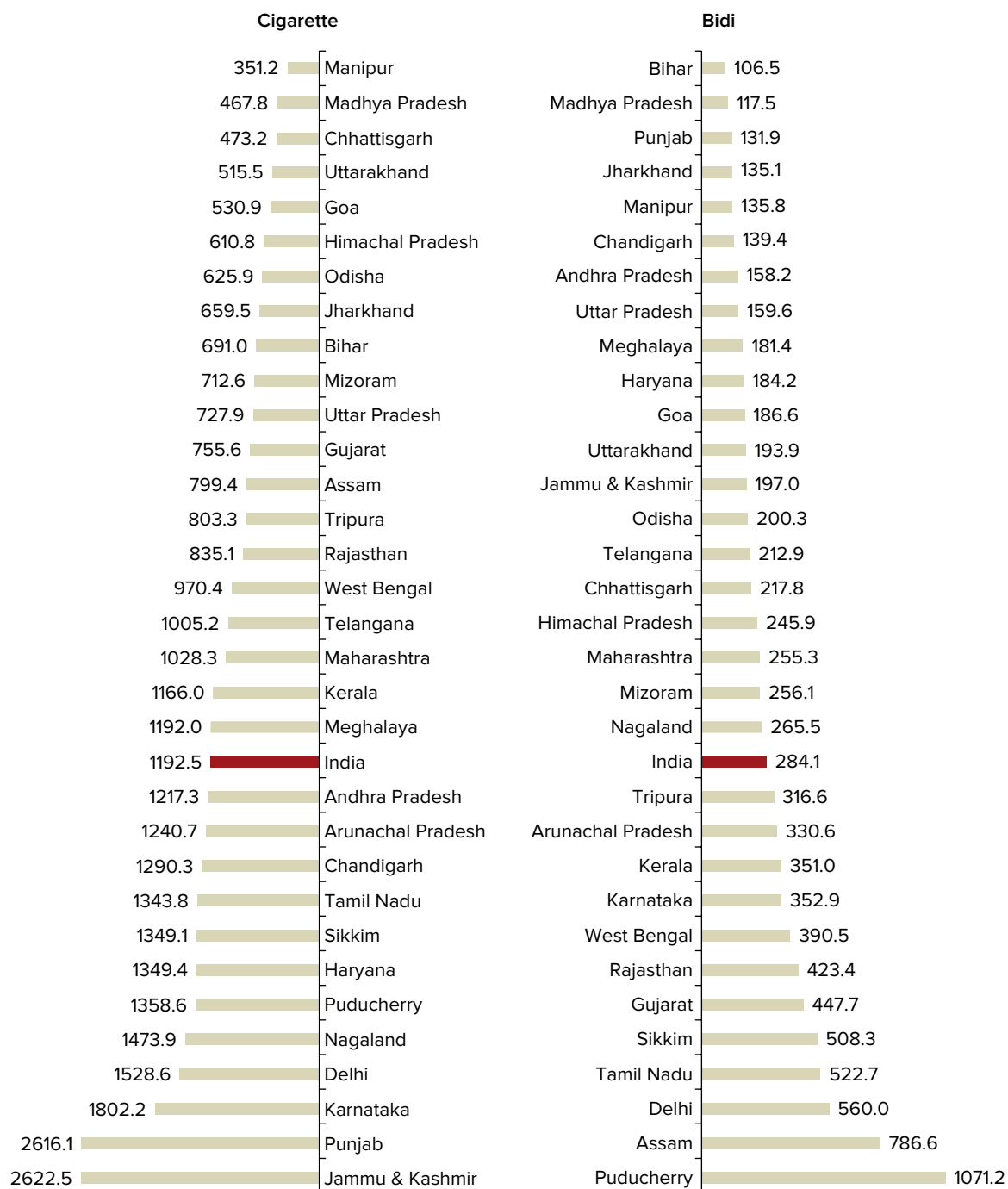
(Tables 4.19 and 4.20). Monthly expenditure on cigarette and *bidi* is higher among daily smokers aged 25 years or above than among daily smokers aged 18-24 years. A daily cigarette smoker from urban areas spends an additional Rs 290 per month compared to his/ her rural counterpart; urban *bidi* smokers, however, spend Rs 11 less per month on *bidis* than their rural counterparts.

There is an increase in monthly expenditure on cigarettes and *bidis* with increase in education. At the same time, there is a decrease in the

average number of cigarettes/*bidis* smoked per day by a daily smoker. Probably, educated smokers and smokers from urban areas may be smoking relatively more expensive brands of cigarettes. As regards occupational groups, self-employed persons (Rs 1,267) and students

(Rs 1,422) spend much higher amounts on cigarettes than home makers and retired/unemployed cigarette smokers. Home makers' and retired/unemployed *bidi* smokers' monthly expenditure on *bidis* is also relatively low compared to smokers in other occupations.

**Figure 7.7:** Average monthly expenditure (in Rs) incurred by daily smokers of manufactured cigarette and *bidi* by states/UTs, GATS 2 India, 2016-17



The state/UT level variation in the average monthly expenditure on cigarettes and *bidis* is evident from the Figure 7.7 and given in Appendix Table A-7.5.

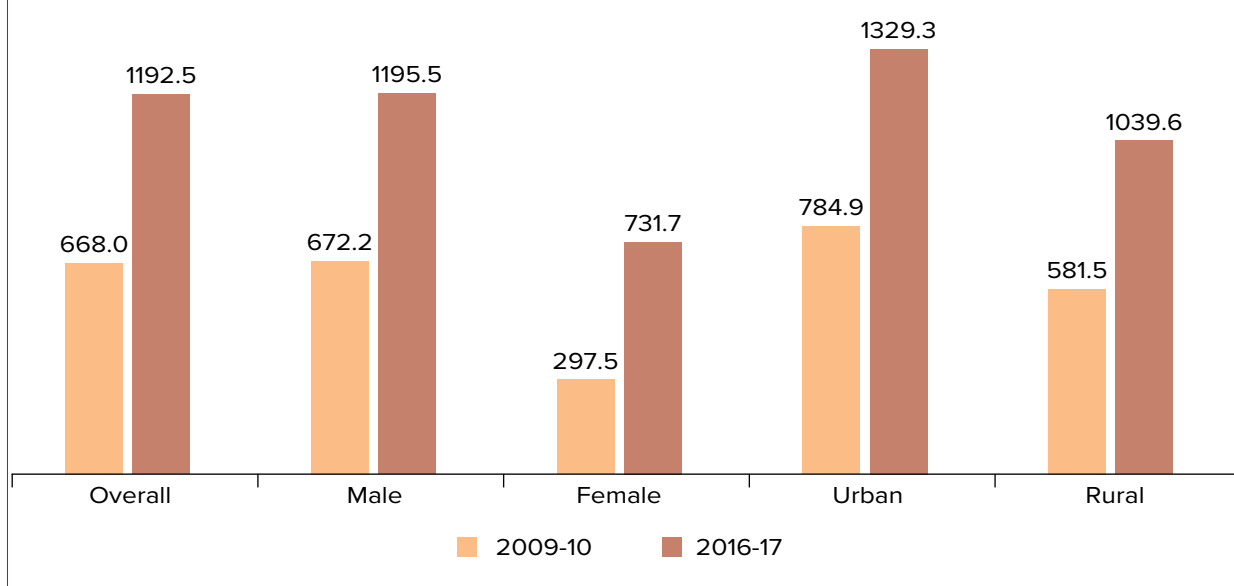
## 7.5 CHANGE IN AVERAGE MONTHLY EXPENDITURE (IN Rs) ON MANUFACTURED CIGARETTE AND *BIDI* (GATS 1 TO GATS 2)

This section shows the change in monthly expenses incurred by daily smokers on cigarettes and *bidis* between GATS 1 and GATS 2. Monthly expenditure on cigarettes has increased from Rs 399.2 in GATS 1 to Rs 1192.5 in GATS 2 (Table 7.6). The expenditure in GATS 1 is based on prices as they were seven years ago; factoring in inflation rates for the period 2010-16, GATS 1 expenditure during the current period is Rs 668.0. In other words, monthly expenditure on cigarette has increased by 78.5 percent in seven years. The increase is statistically significant at one percent level of significance.

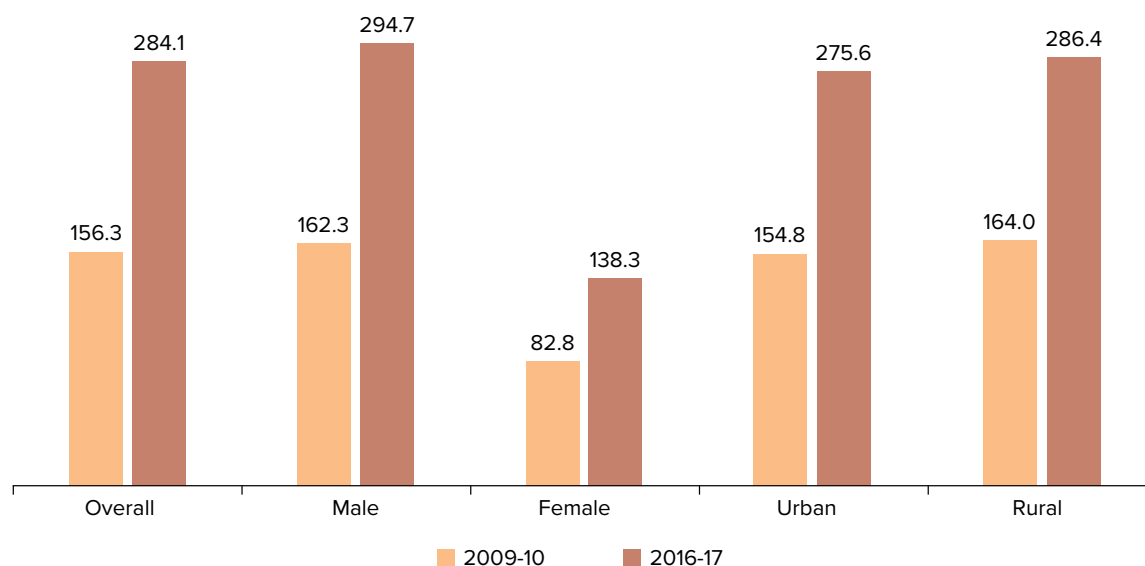
Between GATS 1 to GATS 2, there is no significant change in the number of cigarettes smoked per day by a daily cigarette smoker. There fore, the increase in monthly expenditure can be attributed to either a shift to more expensive brands or an increase in cigarette prices. Part of the increase in prices could be attributed to increased taxation. Between GATS 1 and GATS 2, there was a significant increase of the order of 69-79 percent in the average monthly expenditure on cigarettes of male daily cigarette smokers as well as smokers from both urban and rural areas. Monthly expenditure of female cigarette smokers on cigarettes increased by 146 percent from Rs 297.5 in GATS 1 to Rs 731.7 in GATS 2; however, the increase is not statistically significant.

In GATS 1, the estimated average monthly expenditure on *bidis* for a daily *bidi* smoker was Rs 93.4; after adjusting for inflation, it is Rs 156.3. In GATS 2, there is an increase of 81.8 percent in the monthly expenditure on *bidis* and the increase is statistically significant. Between GATS 1 and GATS 2, there is also a significant increase (3.5 *bidis* per day) in the average number of *bidis* smoked per day by a

**Figure 7.8:** Change in monthly expenditure (in Rs) for cigarette according to gender and residence, between GATS 1 India, 2009-10 and GATS 2 India 2016-17



**Figure 7.9:** Change in monthly expenditure (in Rs) for *bidi* according to gender and residence, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Table 7.6** Change in average monthly expenditure (in Rs) incurred by daily smoker of manufactured cigarettes and *bidi*, according to background characteristics, between GATS 1 India, 2009-10 and GATS 2 India 2016-17

	Average monthly expenditure on cigarette			Average monthly expenditure on <i>bidi</i>		
	2009-10 <sup>1</sup>	2016-17	Relative change	2009-10 <sup>1</sup>	2016-17	Relative change
Overall	668.0	1,192.5	78.5**	156.3	284.1	81.8**
<b>Gender</b>						
Male	672.2	1,195.5	77.8**	162.3	294.7	81.5**
Female	297.5	731.7	145.9	82.8	138.3	67.0**
<b>Residence</b>						
Urban	784.9	1,329.3	69.4 **	154.8	275.6	78.0**
Rural	581.5	1,039.6	78.7**	164.0	286.4	74.6**

Note: 1 GATS India 2009-10 cost data is adjusted for inflation.

daily *bidi* smoker. The increase in the monthly expenditure on *bidis* can be partly attributed to the increase in consumption of *bidis*. Since GATS 1, there has been a significant increase, of the order of 67-82 percent, in the average monthly expenditure on *bidis* of both male and female daily *bidi* smokers as well as smokers from both urban and rural areas.

## Summary and conclusion

- ❖ Daily cigarette and *bidi* smokers spend Rs 1192.45 and Rs 284.12 per month on cigarettes and *bidis* respectively. The average expenditure per month on cigarettes among daily cigarette smokers has increased significantly from Rs 668.04



(after adjusting for inflation) in GATS 1 to Rs 1192.45 in GATS 2.

- ❖ The average expenditure per month on *bidis* among daily *bidi* smokers has increased significantly from Rs 156.3 in GATS 1 to Rs 284.12 in GATS 2, after adjusting for inflation.
- ❖ The number of cigarettes smoked per day has not risen significantly between GATS 1 and GATS 2. The increase in monthly expenditure on cigarettes seems driven by increased prices due to heavier taxation; it could also be a result of smokers shifting to more expensive brands. The average daily consumption of *bidis*, for which taxes are much lower, among daily smokers has gone up significantly between GATS 1 and GATS 2; this drives the increased monthly expenditure among daily *bidi* smokers on *bidis*.
- ❖ The survey does not provide monthly expenditure figures for smokeless tobacco users. On an average, a smokeless tobacco user spent Rs 42.61 on his/her last purchase of tobacco; this is in between what a cigarette smoker (Rs 29.96) and a *bidi* smoker spent (Rs 12.50) on their respective last purchases.
- ❖ Two-thirds of cigarette smokers, one-sixth of *bidi* smokers and one-fourth of smokeless tobacco users buy their products in the loose form (not in packs).
- ❖ Among minor respondents aged 15-17 years, 98 percent reported buying cigarettes; 76 percent reported buying *bidi*; and 89% reported buying smokeless tobacco from either stores or kiosks.

## CHAPTER 8

# MEDIA



Media plays a key role in disseminating knowledge related to tobacco; it shapes opinions, attitudes, and behavior among individuals and within communities. News media is a key source of health information for the general public. Equally importantly, it serves as a framing mechanism for a dialogue around tobacco-related issues. There is ample research to demonstrate that advertisements and other campaigns promoting tobacco products leads to initiation at younger age, higher consumption and lesser likelihood of quitting. Concomitantly, media that provides information about the ill-effects of tobacco consumption and discourages its use has a significant relation with likelihood of making quit attempts, reduction in use and lower chance of initiation.

The Cigarettes and Other Tobacco Products Act (COTPA), 2003 is the principal law governing tobacco advertising in India. COTPA introduced provisions for banning direct and indirect advertisement of tobacco products (except at point of sale). India implemented mandatory graphic health warnings covering 85 percent of both sides of the tobacco package across all products from 1 April, 2016. That helped the country move to the third position among 205 countries that have graphic health warnings on tobacco packages. India's earlier ranking in 2014 was 136; it was 123 in 2012. This was revealed by Cigarette Package Health Warnings International Status Report released by Canadian Cancer Society<sup>(38)</sup>.

Additionally, the Cable Television Networks (Regulation) Act, 1995 along with the 2009 implementing rules disallow direct advertising

of tobacco products on cable networks in India. A subsequent Ministry of Information and Broadcasting Directive also disallows indirect advertising of tobacco products.

This chapter discusses the findings on media on the basis of data collected under GATS 2. The first section presents information on the extent of anti-tobacco messaging in the media. The second section deals with exposure to tobacco marketing in the form of advertisements, sponsorships, promotions, etc. In the third section, comparisons are made between data collected in India at the time of GATS 1 (2009-10) and the second round of the survey in 2016-17.

## 8.1 ANTI-TOBACCO MESSAGING

### 8.1.1 Anti-tobacco information in the media

Data obtained in GATS 2 shows that 76 percent adults\* noticed anti-smoking information in a public place or medium (print/ electronic media, internet, public walls, transportation) during the 30 days preceding the survey (Table 8.1 & Figure 8.1). Almost equal proportions of current smokers (75.0%) and non-smokers (76.1%) noticed anti-smoking information. Television was the medium where the highest percentage (66.9%) of adults noticed anti-smoking information.

With respect to smokeless tobacco, 67.3 percent adults noticed anti-smokeless tobacco

\* Adults wherever used in the text refers to persons aged 15 or above.

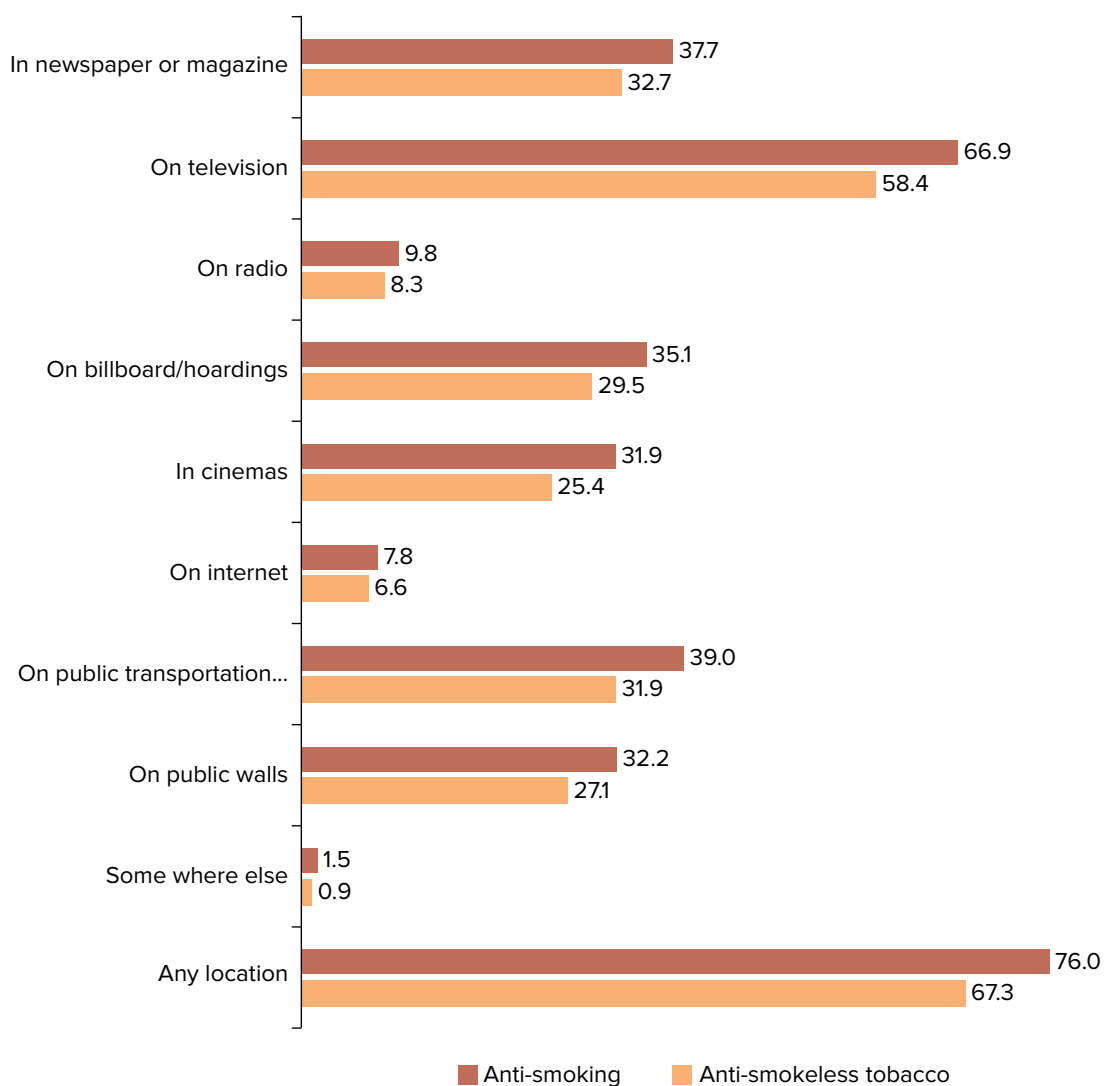
information in any one or more media/public places in the 30 days preceding the survey. The percentage of non-users of smokeless tobacco (68.5%) who noticed anti-tobacco information is higher than the corresponding figure for smokeless tobacco users (62.9%). Television was the medium where the highest percentage of adults (58.4%) noticed anti-smokeless tobacco information.

The results also highlight differences between the proportion of adults who have noticed

anti-smoking and anti-smokeless tobacco information in the media. Exposure to information against smoking was higher than the exposure to information against smokeless tobacco use. In each type of media, higher proportion of adults noticed anti-smoking information than anti-smokeless information.

Table 8.2 presents the variation in exposure to anti-tobacco information in the media according to background characteristics. A higher percentage of men (84.3%) noticed

**Figure 8.1:** Percentage of adults who noticed anti-smoking tobacco and anti-smokeless tobacco information during the last 30 days at various places, GATS 2 India, 2016-17



**Table 8.1:** Percentage of adults aged 15 or above who noticed anti-tobacco information during the last 30 days in various places by smoking status and use of smokeless tobacco, GATS 2 India, 2016-17

Place	Anti-smoking information			Anti-smokeless tobacco information		
	Overall	Current smoker	Current non-smoker	Overall	Current user of smokeless tobacco	Current non user of smokeless tobacco
In newspaper or magazine	37.7	37.4	37.7	32.7	28.7	33.8
On television	66.9	63.0	67.4	58.4	52.0	60.2
On radio	9.8	11.9	9.5	8.3	8.6	8.3
On billboard/hoardings	35.1	35.2	35.1	29.5	26.8	30.3
In cinemas	31.9	26.9	32.5	25.4	20.3	26.8
On internet	7.8	4.8	8.2	6.6	3.3	7.6
On public transportation vehicles/stations	39.0	41.0	38.7	31.9	30.5	32.3
On public walls	32.2	29.9	32.4	27.1	23.9	27.9
Somewhere else	1.5	0.8	1.5	0.9	0.7	1.0
<b>Any Location</b>	<b>76.0</b>	<b>75.0</b>	<b>76.1</b>	<b>67.3</b>	<b>62.9</b>	<b>68.5</b>

anti-smoking information in the last 30 days compared to women (67.3%). With regard to anti-smokeless tobacco as well, more men (75.5%) noticed information as compared to women (58.6%). This difference between men and women persists irrespective of whether they are tobacco users or not. However, among both men and women, lesser proportion of

those who smoke/use smokeless tobacco noticed anti-tobacco information than those who don't smoke/use smokeless tobacco.

More adults in the age group 15-24 years noticed anti-smoking (82.5%) and anti-smokeless tobacco use (74.3%) information than their counterparts aged 25 years or above. This

**Table 8.2:** Percentage of adults aged 15 or above who noticed anti-tobacco information during the last 30 days at any location by smoking status and use of smokeless tobacco according to selected background characteristics, GATS 2 India, 2016-17

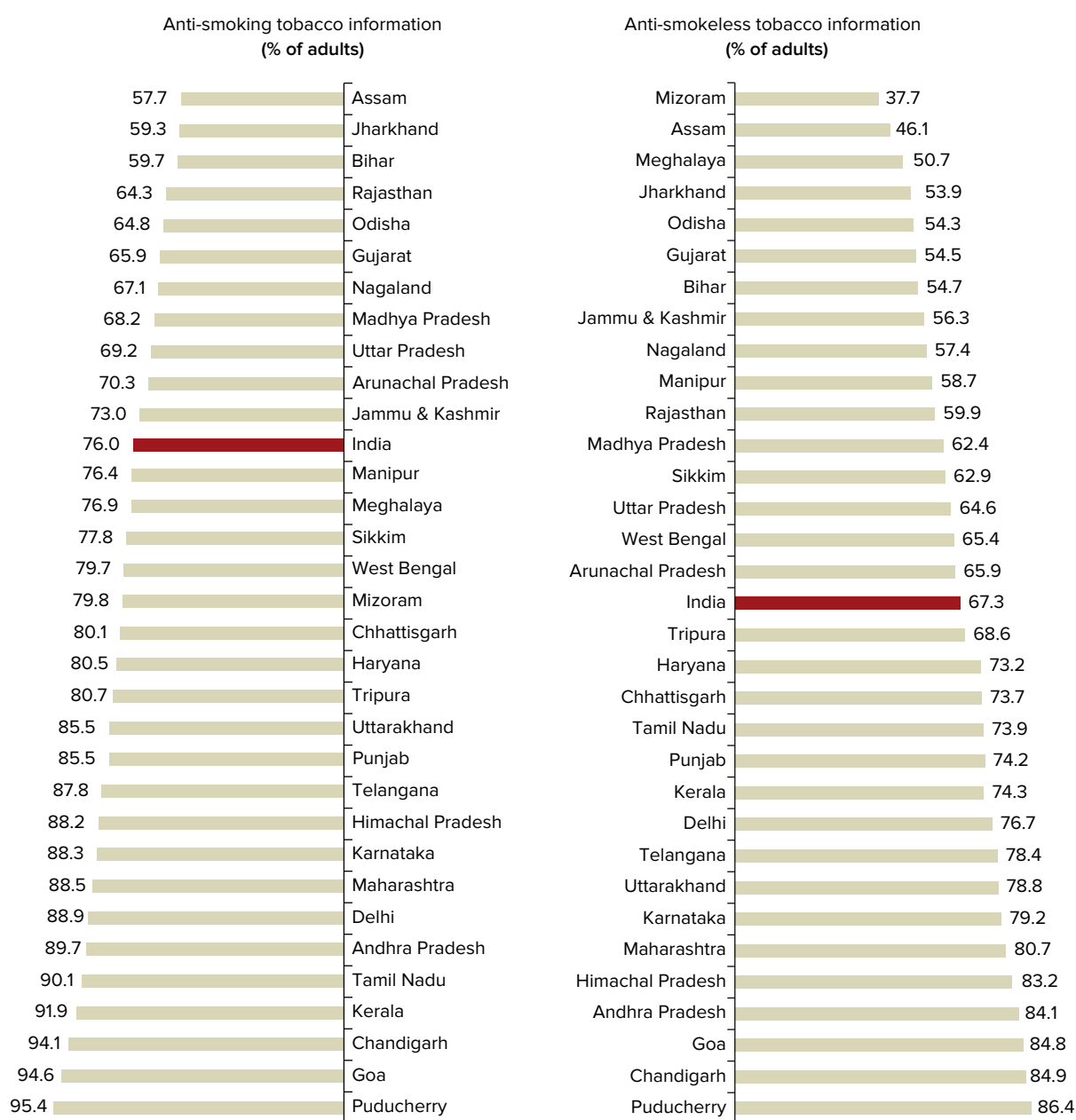
Background characteristic	Anti-smoking information			Anti-smokeless tobacco information		
	Overall	Current smoker	Current non-smoker	Overall	Current user of smokeless tobacco	Current non user of smokeless tobacco
<b>Overall</b>	76.0	75.0	76.1	67.3	62.9	68.5
<b>Gender</b>						
Men	84.3	78.4	85.7	75.5	70.3	77.7
Women	67.3	40.1	67.9	58.6	44.9	60.7
<b>Age</b>						
15-24	82.5	79.6	82.6	74.3	70.6	74.7
25+	73.6	74.6	73.5	64.7	61.7	65.7
<b>Residence</b>						
Urban	88.5	89.0	88.4	78.4	77.0	78.7
Rural	69.4	69.9	69.4	61.4	58.3	62.4

was true for both smokers and non-smokers, and for those who used smokeless tobacco as well as those who did not; those who do not use tobacco notice the information more than those who do. The proportion of urban residents who reported noticing anti-smoking information (88.5%) and anti-smokeless tobacco information (78.4%) is much higher than the corresponding proportion of rural residents (69.4% for anti-smoking and 61.4%

for anti-smokeless tobacco). This difference between urban and rural residents persists even when smokers, non-smokers, and users and non-users of smokeless tobacco are analysed separately.

Appendix Table A-8.1 and Figure 8.2 present the state/UT-wise variation in the proportion of adults who have noticed anti-smoking and anti-smokeless tobacco information in the

**Figure 8.2:** Percentage of adults who noticed anti-smoking tobacco and anti-smokeless tobacco information by states/UTs, GATS 2 India, 2016-17



preceding 30 days. In each state/ UT, majority (50 percent or more) of the adults noticed anti-smoking and anti-smokeless tobacco information. Mizoram (37.7%) and Assam (46.1%) are the only exceptions, where less than 50 percent adults noticed anti-smokeless tobacco information. Puducherry (95.4%), Goa (94.6%) and Chandigarh (94.1%) are three states/UTs with the highest percentage of adults who noticed anti-smoking information. The same three states have the highest percentage of adults who noticed anti-smokeless tobacco information (86.4%, 84.8%, and 84.9% respectively) as well. In general, a higher proportion of adults noticed anti-smoking as compared to anti-smokeless tobacco information across all states.

## 8.1.2 Health warnings on packages of tobacco products and thoughts of quitting

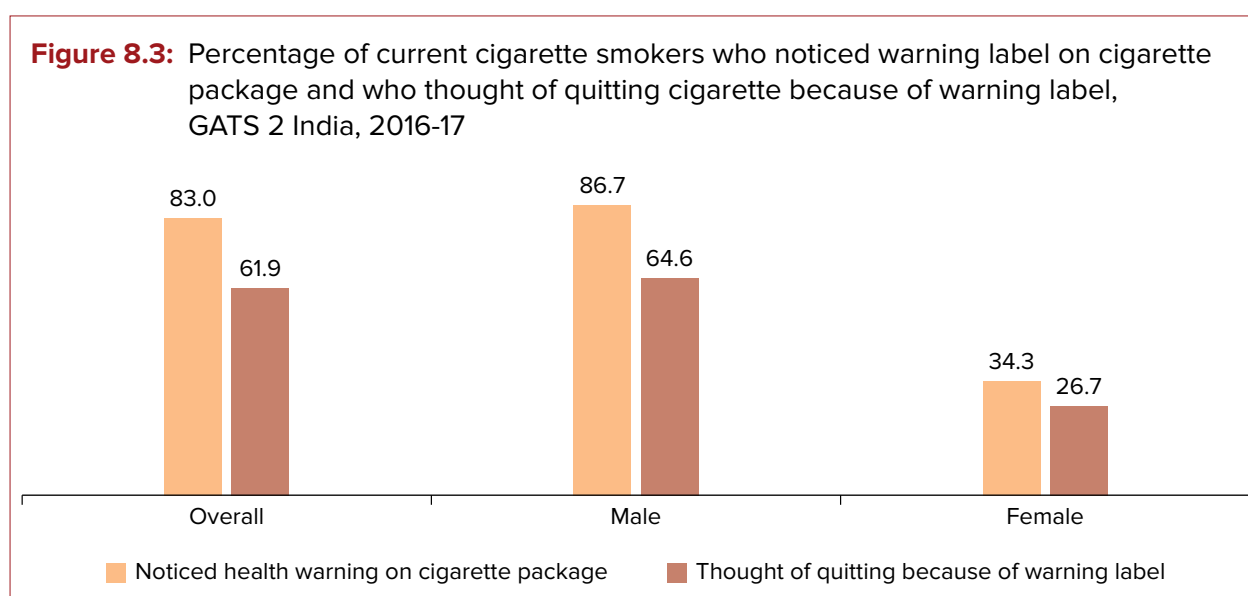
### 8.1.2.1 Health Warnings on cigarette packages

Health advisories or messages play an important role in influencing consumer behavior. The analysis related to smokers who noticed health warnings on cigarette packets according to background characteristics is presented in Table 8.3 and Figure 8.3. Overall, 83.0 percent of all current cigarette smokers

noticed health warnings on cigarette packets. There is a large difference between male (86.7%) and female (34.3%) smokers for this indicator. Among those who noticed a warning label, 74.6 percent reported they thought of quitting after seeing the label. Though this warning is more effective in women, with 77.8 percent being prompted to quit as compared to only 74.5 percent of men, the overall effect of promoting quit thoughts is more among men (64.6%) than women (26.7%). This is because more men compared to women noticed health warnings on cigarette packages.

The percentage of cigarette smokers who noticed health warnings is higher in the younger age groups than in the older age groups; higher in urban areas compared to rural areas; and higher among those with higher educational levels. Among occupational groups, it is low only in home makers (29.5%).

Of those who saw the warning, the proportion who thought of quitting was more or less same among men, irrespective of the age group (68.7% to 77.0%), residence (74.1% in urban and 74.8% in rural), educational level (70.6% to 77.6%) and occupational category (65.1% to 78.1%). In women, the proportion who thought of quitting varies sharply with some background characteristics; for instance, in women in the 15-24 year age group, it is only 21.1 percent and



**Table 8.3:** Percentage of current cigarette smokers aged 15 or above who noticed health warning on cigarette package and thought of quitting because of the warning label on cigarette package during the last 30 days by background characteristics, GATS 2 India, 2016-17

Background characteristic	Current cigarette smokers who								
	Noticed health warning on cigarette package			Thought of quitting because of the warning label			Thought of quitting because of the warning label (Among those who noticed health warning on cigarette package)		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
<b>Overall</b>	83.0	86.7	34.3	61.9	64.6	26.7	74.6	74.5	77.8
<b>Age</b>									
15-24	92.5	93.0	45.0	63.4	64.0	9.5	68.6	68.8	21.1
25-44	87.3	89.0	52.0	66.2	67.2	44.5	75.8	75.5	85.6
45-64	78.2	84.1	31.2	60.2	64.7	23.5	76.9	77.0	75.5
65+	54.9	65.4	13.3	37.5	44.9	8.1	68.3	68.7	60.8
<b>Residence</b>									
Urban	91.2	91.7	74.7	67.8	67.9	62.3	74.3	74.1	83.4
Rural	77.9	83.4	27.2	58.3	62.4	20.4	74.8	74.8	75.1
<b>Education level</b>									
No formal schooling	59.1	69.5	23.5	42.4	49.0	19.9	71.8	70.6	84.6
Less than primary	80.5	80.9	72.8	62.1	62.2	60.4	77.1	76.8	82.9
Primary but less than secondary	89.5	90.6	47.3	63.9	65.1	16.7	71.4	71.8	35.4
Secondary and above	94.9	94.9	97.0	73.8	73.6	86.1	77.7	77.6	88.7
<b>Occupation</b>									
Government and non-government employee	93.8	94.0	87.1*	73.5	73.4	81.1*	78.4	78.1	93.1*
Self employed	83.8	85.5	47.8	62.1	63.1	39.8	74.1	73.9	83.3
Student	91.7	91.7	94.9*	59.3	59.7	31.3*	64.7	65.1	33.0*
Home maker	29.5	77.8	17.1	20.4	57.3	11.0	69.3	73.6	64.2
Retired or unemployed	73.0	76.0	23.8	54.0	56.8	9.4	74.1	74.7	39.5*

Note: \*Based on less than 25 unweighted cases.

increases upto 85.6 percent in the next age-group of 25-44.

However, the net effect on current smokers—a combination of ‘noticing the warning on the package’ followed by the ‘noticing giving rise to a thought of quitting’—is higher for younger age groups; more among those with

urban residence; more with higher education and similar gradients across occupational categories. This would be consistent with measures to make the warnings larger and hence more noticeable.

Appendix Table A-8.2 presents state/ UT wise variation in the percentage of current cigarette



smokers who noticed health warnings on cigarette packets and thought of quitting. In each state/ UT, majority (50% or more) of cigarette smokers noticed health warning on cigarette packets. In Puducherry, Kerala and Chandigarh, 95 percent or more cigarette smokers reported noticing warning labels on packets. All those who noticed health warnings did not think of quitting cigarette smoking. Variation in the proportion of those who noticed the warning and thought of quitting ranged from 95.9 percent in Madhya Pradesh to 22.5 percent in Mizoram. In many states/UTs, although a large proportion noticed the warning label, only a small proportion of them thought of quitting. For example, in Nagaland, 94.3 percent of cigarette smokers noticed health warnings on cigarette packets but only 36.0 percent of them thought of quitting.

### 8.1.2.2 Health warnings on *bidi* packages

Proportions of current *bidi* smokers who noticed health warnings on *bidi* packets during the preceding 30 days are presented in Table 8.4 and Figure 8.4. Overall, 78.4 percent *bidi* smokers reported seeing health warnings on *bidi* packets. Similar to the data for cigarettes, a much higher percentage of men (80.5%) noticed the warnings as opposed to women (51.8%). Of all *bidi* smokers who had noticed the health warning, 68.6 percent thought of quitting

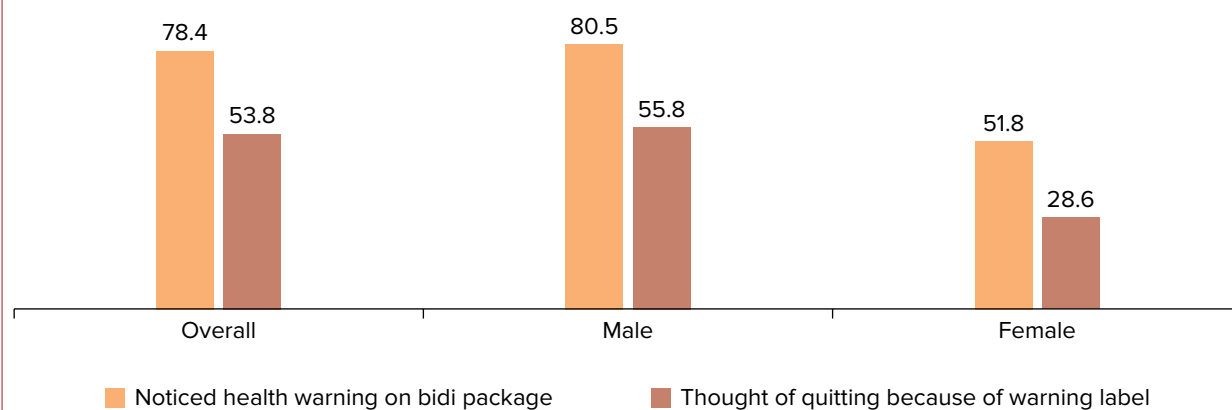
because of the warning label. The proportion of those who thought of quitting was 53.8 percent of all current *bidi* smokers.

In men, the net effect of the warning label is that 55.8 percent of all current male *bidi* smokers thought of quitting due to the label. But in women, the net effect is only 28.6 percent. This is because although 55.2 percent women who noticed the warning thought of quitting, the proportion who noticed the warning was much less.

The difference between urban and rural current *bidi* smokers is not large on all three indicators—those who noticed the label; those who thought of quitting after noticing it; and those who thought of quitting among all *bidi* smokers, irrespective of whether they noticed the label or not. A higher percentage of *bidi* smokers with a secondary and above education (85.9%) reported noticing health warnings than those with no formal schooling (71.0%).

Appendix Table A-8.2 presents state/UT wise variation in the percentage of current *bidi* smokers who noticed health warnings on *bidi* packets and thought of quitting because of it. With the exception of Jammu & Kashmir, Jharkhand and Mizoram, majority (50% or more) of *bidi* smokers in each state/UT noticed health warning on *bidi* packets. The highest proportion

**Figure 8.4:** Percentage of current *bidi* smokers who noticed warning label on *bidi* packages and who thought of quitting *bidi* because of warning label, GATS 2 India 2016-17



**Table 8.4:** Percentage of current *bidi* smokers aged 15 or above who noticed health warning on *bidi* package and thought of quitting because of the warning label on *bidi* package during the last 30 days by gender, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Current <i>bidi</i> smoker who								
	Noticed health warning on <i>bidi</i> package			Thought of quitting because of the warning label			Thought of quitting because of the warning label (Among those who noticed health warning on <i>bidi</i> package)		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
<b>Overall</b>	78.4	80.5	51.8	53.8	55.8	28.6	68.6	69.3	55.2
<b>Age</b>									
15-24	84.8	85.0	76.0*	60.3	60.6	51.6*	71.2	71.2	67.9*
25-44	80.9	81.7	63.9	58.1	58.8	42.8	71.8	72.0	67.0
45-64	78.2	80.7	51.8	51.8	54.3	26.4	66.3	67.3	51.0
65+	68.4	73.4	38.2	43.5	47.9	17.0	63.6	65.2	44.5
<b>Residence</b>									
Urban	80.9	81.1	75.6	55.6	56.0	43.1	68.7	69.1	57.0
Rural	77.7	80.3	49.2	53.3	55.7	27.0	68.6	69.4	54.9
<b>Education level</b>									
No formal schooling	71.0	75.4	48.5	46.0	50.3	23.9	64.8	66.7	49.4
Less than primary	84.5	84.5	85.6	59.0	58.8	67.3	69.8	69.6	78.6
Primary but less than secondary	81.1	81.2	72.0	56.9	56.8	65.6	70.2	69.9	91.2
Secondary and above	85.9	86.2	53.3*	63.0	63.3	19.9*	73.3	73.5	37.2*
<b>Occupation</b>									
Government and non-government employee	89.7	89.7	90.4*	68.7	68.7	65.3*	76.6	76.6	72.3*
Self employed	79.4	79.8	61.4	54.3	55.0	28.0	68.4	68.9	45.6
Student	81.9	82.1	68.3*	71.4	71.4	68.3*	87.1	87.0	100.0*
Home maker	52.7	73.7	48.5	33.8	53.3	29.9	64.1	72.4	61.6
Retired or unemployed	74.8	76.8	49.2	46.4	48.5	20.4	62.1	63.1	41.4

Note: \*Based on less than 25 unweighted cases.

of the *bidi* smokers who noticed warning labels on *bidi* packets was in Andhra Pradesh; 95.6 percent *bidi* smokers in the state reported noticing the warning label on packets, and among them, 86.6 percent thought of quitting *bidi* smoking.

### 8.1.2.3 Health warnings on packages of smokeless tobacco

Table 8.5 and Figure 8.5 show that 71.6 percent of smokeless tobacco users noticed health warnings on packages of smokeless

tobacco products. The percentage of men who did so is higher (78.5%) than women (54.7%). In 46.2 percent of all current users of smokeless tobacco products, the warning label led to thoughts about quitting. This indicator, estimated as the percentage of smokeless tobacco users who thought of quitting its use because of the warning label as a proportion of all smokeless tobacco users irrespective of whether they noticed the warning label or not, is termed as the net effect. Among only those who noticed the warning label, 64.5 percent were stimulated to think of quitting.

With respect to thoughts of quitting, once again, the net effect of warning labels on women (29.9%) is lower than on men (52.9%), though as many as 54.7 percent of women and 67.4 percent of men who saw the label thought of quitting.

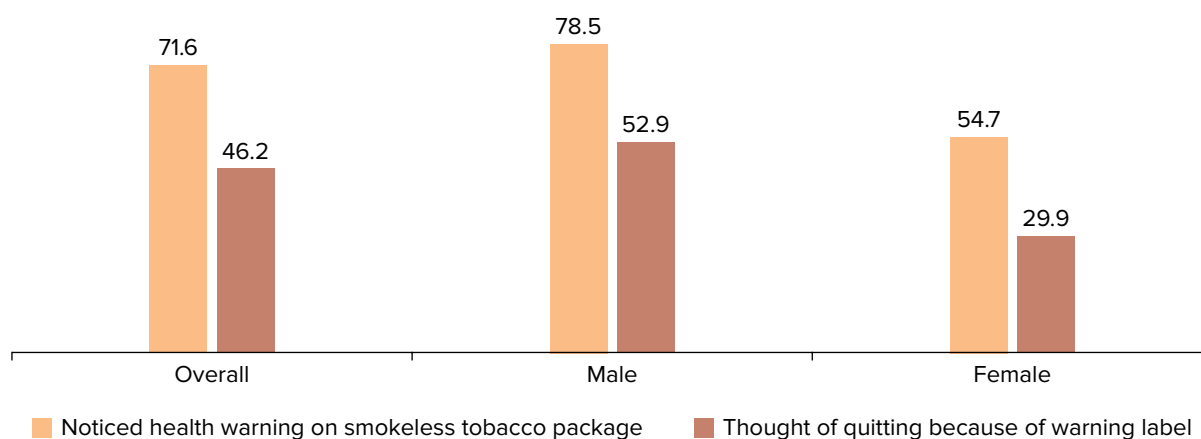
With regards to age, health warnings on packages led to thoughts of quitting in a greater proportion of younger users aged 15-24 years (52.7%) than in older users aged 45-64 years and 65 years and above (41.4% and 31.2% respectively). It is again the proportion noticing health warnings that makes for much of the difference. In men, age makes little difference in smokers seeing

labels and thinking of quitting; whereas in women, it decreases with increase in age.

More smokeless tobacco users in urban areas (78.0%) noticed health warnings on smokeless tobacco products than those in rural areas (69.5%). A higher proportion of those with secondary or higher levels of education (85.9%) reported noticing health warnings on smokeless tobacco products, as compared to those with no formal schooling (56.4%). The trend was similar for net effect of warning labels on quitting, with 62.2 percent of those with secondary or higher education having thoughts of quitting, and 31.4 percent of those with no formal schooling reporting the same.

Appendix Table A-8.2 presents state/UT wise variation in the percentage of current users of smokeless tobacco who noticed health warnings on smokeless tobacco packets and thought of quitting. Variation in the proportion of those who noticed the warnings ranges 39.0 percent in Kerala to 89.6 percent in Manipur. In many states/UTs, although a large proportion noticed the warning label, only a small proportion of them thought of quitting. For example, in Gujarat, 74.1 percent of smokeless tobacco users noticed health warning, but only 42.2 percent of them thought of quitting its use.

**Figure 8.5:** Percentage of current smokeless tobacco users who noticed warning label on smokeless tobacco packages and who thought of quitting smokeless tobacco because of warning labels, GATS 2 India 2016-17



**Table 8.5:** Percentage of current smokeless tobacco users aged 15 or above who noticed health warning on smokeless tobacco products package and thought of quitting because of the warning label on smokeless tobacco products package during the last 30 days by gender, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Current user of smokeless tobacco who								
	Noticed health warning on smokeless tobacco products packages			Thought of quitting because of the warning label			Thought of quitting because of the warning label (Among those who noticed health warning on smokeless tobacco products package)		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
Overall	71.6	78.5	54.7	46.2	52.9	29.9	64.5	67.4	54.7
<b>Age</b>									
15-24	78.3	80.8	65.3	52.7	54.1	45.6	67.4	67.0	69.8
25-44	77.7	82.5	62.0	51.2	56.2	34.8	65.9	68.1	56.1
45-64	66.6	74.5	53.4	41.4	49.1	28.4	62.2	66.0	53.3
65+	52.6	64.4	38.8	31.2	43.5	17.1	59.4	67.5	43.9
<b>Residence</b>									
Urban	78.0	82.9	65.0	49.7	54.6	36.4	63.7	65.9	56.1
Rural	69.5	77.0	51.6	45.0	52.3	27.9	64.8	67.9	54.1
<b>Education level</b>									
No formal schooling	56.4	65.1	48.8	31.4	39.5	24.2	55.7	60.7	49.7
Less than primary	70.6	75.2	56.1	45.4	48.2	36.8	64.3	64.1	65.5
Primary but less than secondary	80.3	83.1	66.7	53.5	56.5	38.6	66.6	68.1	57.9
Secondary and above	85.9	86.5	80.2	62.2	62.9	53.6	72.3	72.8	66.8
<b>Occupation</b>									
Government and non-government employee	86.0	87.4	70.6	58.7	59.9	45.8	68.3	68.5	64.9
Self employed	74.4	77.3	58.7	48.9	52.3	30.3	65.7	67.6	51.6
Student	84.9	84.3	89.8	63.8	64.2	60.1	75.1	76.2	66.9
Home maker	53.6	74.3	52.8	30.5	52.4	29.6	56.9	70.5	56.1
Retired or unemployed	63.3	72.8	40.9	36.1	42.4	21.0	57.0	58.4	51.4

## 8.2 EXPOSURE TO MARKETING/PROMOTION OF TOBACCO

GATS 2 asked respondents about their exposure to tobacco marketing; this included

noticing, during 30 days preceding the survey, advertisements of smoking and smokeless tobacco on various media, as well as specific promotional measures undertaken by the industry to increase sales of cigarette, *bidi* and smokeless tobacco.

## 8.2.1 Noticed marketing of smoking tobacco products

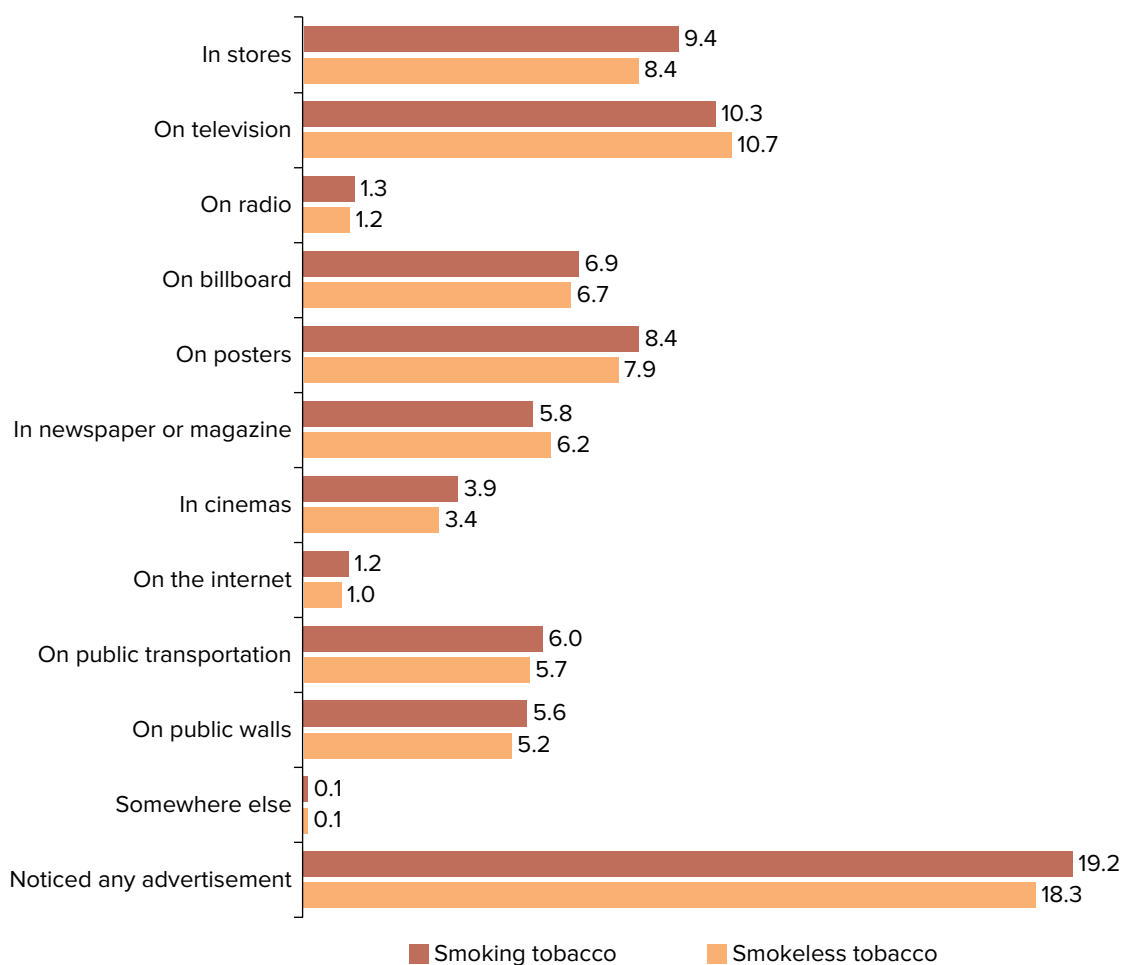
Table 8.6 and Figure 8.6 present the survey findings on reach of marketing for smoking tobacco. Overall, 22.3 percent adults had noticed some form of marketing (advertisement or promotion) of smoking tobacco. Analysed by current smoking status, 30.0 percent current smokers and 21.3 percent current non-smokers noticed some form or the other of marketing of tobacco products.

The most prevalent form of marketing is advertisements. Overall, 19.2 percent of adults noticed advertisements of smoking tobacco. A higher proportion of current smokers (23.7%)

noticed advertisements of smoking tobacco than non-smokers (18.7%). The most reported source of advertisement is television, with 10.3 percent adults reporting they had seen advertisements on TV them in the preceding 30 days. Among smokers, advertisements in stores are the main source of exposure (13.0%), followed by posters (11.7%), television (10.8%), billboards (10.2%) and even public transport (8.9%).

Cigarette promotion measures other than advertisements were noticed by 5.3 percent adults; this included promotion in the form of free samples, sale offers, coupons, free gifts or discounts on other products, clothing or items with a brand or logo, and/ or surrogate advertisements. Each of these was noticed

**Figure 8.6:** Percentage of adults who noticed smoking and smokeless tobacco advertisement during the past 30 days at various places, GATS 2 India 2016-17



by one to two percent respondents. Among current smokers, 8.1 percent witnessed such a promotion measure in the preceding 30 days, whereas among non-smokers it is 4.9 percent.

Similar *bidi* promotion measures were noticed by 5.4 percent adults in the preceding 30 days. Among smokers, those who noticed *bidi* promotion numbered 11 percent; among

**Table 8.6:** Percentage of adults aged 15 or above who noticed tobacco marketing for smoking during the last 30 days at various places by smoking status, GATS 2 India, 2016-17

Place/Source	Smoking tobacco		
	Overall	Current smoker	Current non-smoker
<b>Noticed any advertisement</b>	19.2	23.7	18.7
In stores	9.4	13.0	8.9
On television	10.3	10.8	10.2
On radio	1.3	2.3	1.2
On billboard	6.9	10.2	6.5
On posters	8.4	11.7	8.0
In newspaper or magazine	5.8	6.9	5.7
In cinemas	3.9	4.0	3.9
On the internet	1.2	1.0	1.2
On public transportation	6.0	8.9	5.6
On public walls	5.6	7.7	5.3
Somewhere else	0.1	0.1	0.1
<b>Noticed any cigarette promotion</b>	5.3	8.1	4.9
Free samples	1.5	2.6	1.3
Sale prices	1.6	2.9	1.5
Coupons	1.6	3.4	1.4
Free gifts/discounts on other products	1.2	2.6	1.0
Clothing/item with brand name or logo	1.5	2.4	1.4
Mail promotion	0.5	0.7	0.4
Surrogate advertisement	1.3	2.2	1.2
<b>Noticed any <i>bidi</i> promotion</b>	5.4	11.0	4.7
Free samples	1.3	2.9	1.1
Sale prices	1.5	3.4	1.3
Coupons	2.8	7.8	2.2
Free gifts/discounts on other products	1.3	3.2	1.1
Clothing/item with brand name or logo	1.3	2.8	1.1
Mail promotion	0.3	0.4	0.3
Surrogate advertisement	1.0	2.0	0.8
Noticed any cigarette or <i>bidi</i> promotion	8.0	14.4	7.2
Noticed any advertisement or promotion of either cigarette or <i>bidi</i>	22.3	30.0	21.3

non-smokers, it was 4.7 percent. Taken together, 14.4 percent smokers noticed some form of cigarette or *bidi* promotion other than advertisements; this rises to 30.0 percent if advertisements are included.

Table 8.7 contains information on the percentage of adults who noticed tobacco marketing promoting smoking in the preceding 30 days, disaggregated by background characteristics of gender, age or residence. More men (26.6%) than women (17.7%) noticed these. The proportion of smokers who noticed these promotional advertisements is more than the proportion of non-smokers who noticed it.

More young adults in the 15-24 year age-group (22.8%) noticed advertisements promoting

smoking in any location than those above the age of 25 (17.9%). More adults in the younger age group were also exposed to promotion of cigarettes and *bidi* smoking. This is a matter of concern, for it could be indicating that much of the advertisements are aimed at younger people. Higher proportion of adults in urban areas (25.0%) reported seeing smoking tobacco marketing than those in rural areas (20.9%). Overall, outdoor media is the place where the highest percentage of people (12.0%) reported noticing smoking tobacco marketing; this is closely followed by electronic media (11.4%). The same pattern is seen in men and among all age groups, in urban as well as rural areas. A higher proportion of women are exposed to electronic media than outdoor media.

**Table 8.7:** Percentage of adults aged 15 or above who noticed tobacco marketing for smoking during the past 30 days at various places by status of smoking, according to background characteristics, GATS 2 India, 2016-17

Place/Source	Overall	Gender		Age		Residence	
		Male	Female	15-24	25+	Urban	Rural
<b>Overall</b>							
Point of sale <sup>1</sup>	9.4	12.8	5.8	11.6	8.6	11.8	8.1
Electronic media <sup>2</sup>	11.4	12.7	10.2	13.9	10.6	13.7	10.3
Outdoor <sup>3</sup>	12.0	15.9	7.9	14.3	11.2	14.2	10.9
Print media <sup>4</sup>	5.8	8.3	3.3	7.7	5.1	7.6	4.9
Other <sup>5</sup>	0.1	0.2	0.1	0.2	0.1	0.1	0.1
Noticed advertisement in any location	19.2	23.0	15.2	22.8	17.9	22.1	17.7
Noticed any cigarette promotion <sup>6</sup>	5.3	6.9	3.6	6.5	4.8	6.2	4.8
Noticed any <i>bidi</i> promotion <sup>6</sup>	5.4	7.3	3.4	6.2	5.1	4.8	5.7
Noticed any advertisement or promotion of either cigarette or <i>bidi</i>	22.3	26.6	17.7	26.0	20.9	25.0	20.9
<b>Current smoker</b>							
Point of sale <sup>1</sup>	13.0	13.9	4.0	17.0	12.6	18.6	11.0
Electronic media <sup>2</sup>	12.2	12.9	6.1	18.9	11.6	14.5	11.4
Outdoor <sup>3</sup>	16.5	17.4	7.8	24.9	15.8	17.5	16.2
Print media <sup>4</sup>	6.9	7.5	0.6	11.4	6.5	7.8	6.6



Place/Source	Overall	Gender		Age		Residence	
		Male	Female	15-24	25+	Urban	Rural
Other <sup>5</sup>	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Noticed advertisement in any location	23.7	24.9	11.0	33.2	22.8	27.4	22.3
Noticed any cigarette promotion <sup>6</sup>	8.1	8.4	5.6	13.9	7.6	9.8	7.5
Noticed any <i>bidi</i> promotion <sup>6</sup>	11.0	11.2	8.9	11.8	10.9	10.7	11.1
Noticed any advertisement or promotion of either cigarette or <i>bidi</i>	30.0	31.0	19.7	40.4	29.0	34.8	28.2
<b>Current non-smoker</b>							
Point of sale <sup>1</sup>	8.9	12.5	5.8	11.4	7.9	11.1	7.7
Electronic media <sup>2</sup>	11.3	12.6	10.2	13.7	10.4	13.6	10.1
Outdoor <sup>3</sup>	11.5	15.6	7.9	13.9	10.5	13.9	10.2
Print media <sup>4</sup>	5.7	8.5	3.3	7.6	4.9	7.5	4.7
Other <sup>5</sup>	0.1	0.2	0.1	0.3	0.1	0.1	0.1
Noticed advertisement in any location	18.7	22.6	15.3	22.4	17.1	21.6	17.1
Noticed any cigarette promotion <sup>6</sup>	4.9	6.5	3.5	6.2	4.4	5.9	4.4
Noticed any <i>bidi</i> promotion <sup>6</sup>	4.7	6.3	3.3	6.0	4.2	4.3	4.9
Noticed any advertisement or promotion of either cigarette or <i>bidi</i>	21.3	25.6	17.7	25.5	19.6	24.1	19.9

**Note:** 1 Point of sale includes stores.

2 Electronic media includes TV/radio/internet/cinemas.

3 Outdoor includes billboard/hoardings/posters/public transportation vehicles or stations/public walls.

4 Print media includes newspaper and magazine.

5 Others include anywhere else.

6 Includes free samples/at sale prices/free gifts or special discount offers/brand name or logo/promos in the mail/surrogate advertisement promoting other products.

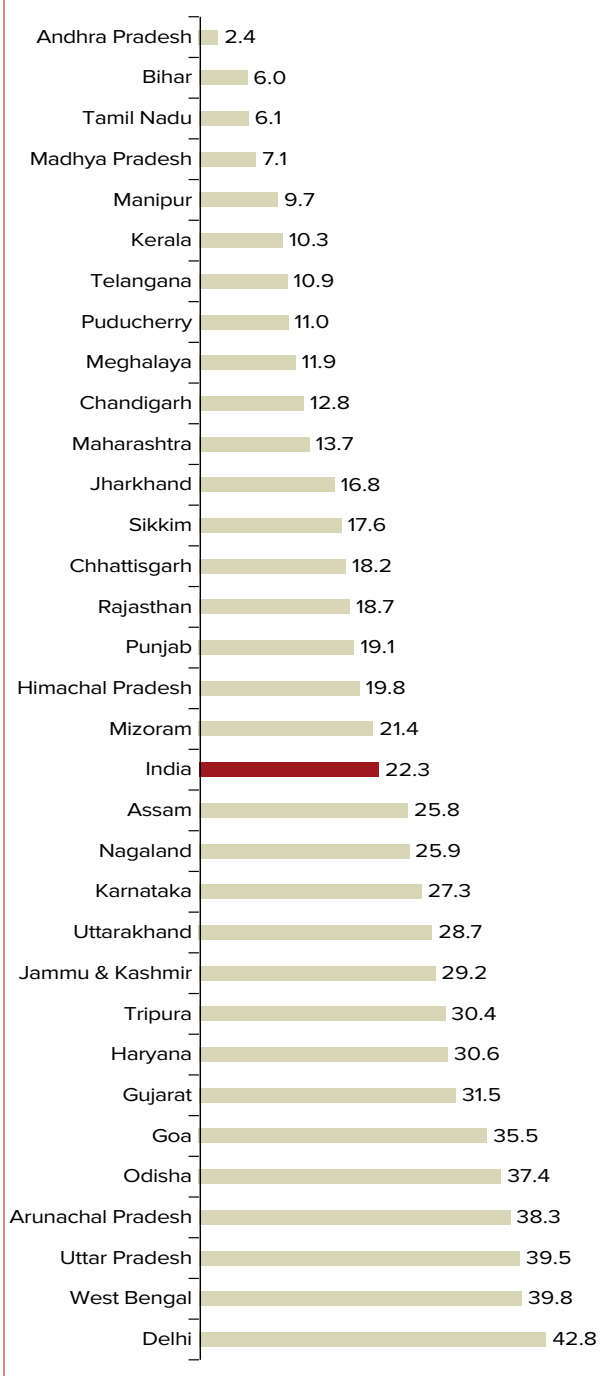
Information about exposure to smoking tobacco marketing across the various states/UTs of India is presented in Figure 8.7 and Appendix Table A-8.3. Among all states/UTs, Delhi reported the highest proportion of adults who noticed any advertisement (37.6%); who noticed any promotion of cigarette or *bidi* (21.5%); and who noticed any advertisement or promotion (42.8%). Among current smokers, Arunachal Pradesh reported the highest proportion of those who noticed any advertisement (49.0%), and who noticed any advertisement or promotion (56.8%). Haryana (40.3%) has the highest proportion of smokers who noticed any promotion.

## 8.2.2 Noticed marketing of smokeless tobacco products

Table 8.8 and Figure 8.6 present information on smokeless tobacco marketing in the 30 days preceding the survey. Overall, 20.5 percent adults noticed any advertisement or promotion of smokeless tobacco use in the preceding 30 days. Among current users of smokeless tobacco products, 24.3 percent noticed any advertisement or promotion, whereas the same figure for non-users is 19.5 percent.

18.3 percent current users and 17.5 percent non-users noticed advertisements in the

**Figure 8.7:** Percentage of adults who noticed any smoking tobacco advertisement or promotion by states/UTs, GATS 2 India, 2016-17



last 30 days. Television was where the highest proportion of adults (10.7%) noticed advertisements, followed by stores (8.4%). Among all adults, 5.7 percent noticed any promotion of smokeless tobacco. The highest proportion (2.0%) noticed surrogate advertisements.

A higher proportion of smokeless tobacco users (8.0%) than non-users (5.1%) noticed such promotion. As was observed in case of all adults, surrogate advertisement is the most commonly noticed form of promotion among users and non-users.

Table 8.9 contains information on the percentage of adults who noticed tobacco marketing promoting smokeless tobacco use in the preceding 30 days, disaggregated by background characteristics of gender, age or residence.

Information about exposure to marketing of smokeless tobacco products across various states/UTs of India is presented in Figure 8.8 and Appendix Table A-8.4. In Odisha, Uttar Pradesh, West Bengal, Delhi, Gujarat, Arunachal Pradesh and Uttarakhand, more than one-third (32-40%) of adults noticed any advertisement or promotion of smokeless tobacco products. On the contrary, in Tamil Nadu, Manipur, Kerala and Andhra Pradesh, less than five percent adults noticed any advertisement or promotion of smokeless tobacco products.

## 8.3 CHANGE IN MEDIA RELATED INDICATORS BETWEEN GATS 1 AND GATS 2

### 8.3.1 Health warnings on tobacco product package and its effect on thoughts of quitting

Table 8.10 and Figures 8.9 & 8.10 display the data on changes in exposure to health warnings on tobacco product package and its effect on thoughts of quitting. Comparison of exposure to warning labels on cigarette packages between GATS 1 and GATS 2 shows a significant increase in the proportion of current smokers who noticed warning labels. Between 2009-10 and 2016-17, there is an increase of 12.8 percentage points (relative increase of 17.2%) in the proportion of smokers

**Table 8.8:** Percentage of adults aged 15 or above who noticed smokeless tobacco products marketing during the last 30 days at various places by use of smokeless tobacco, GATS 2 India, 2016-17

Place/Source	Smokeless tobacco		
	Overall	Current users	Current non-users
<b>Noticed any advertisement</b>	<b>18.3</b>	<b>21.4</b>	<b>17.5</b>
In stores	8.4	10.7	7.7
On television	10.7	11.4	10.6
On radio	1.2	1.6	1.1
On billboard	6.7	7.8	6.5
On posters	7.9	9.7	7.5
In newspaper or magazine	6.2	6.9	6.0
In cinemas	3.4	3.1	3.5
On the internet	1.0	0.5	1.2
On public transportation	5.7	6.3	5.6
On public walls	5.2	6.0	5.0
Somewhere else	0.1	0.1	0.1
<b>Noticed any promotion</b>	<b>5.7</b>	<b>8.0</b>	<b>5.1</b>
Free samples	1.5	2.5	1.2
Sale prices	1.5	2.6	1.2
Coupons	1.5	2.2	1.3
Free gifts/discounts on other products	1.1	1.5	1.0
Clothing/item with brand name or logo	1.9	2.3	1.8
Mail promotion	0.3	0.3	0.3
Surrogate advertisement	2.0	3.2	1.7
<b>Noticed any advertisement or promotion</b>	<b>20.5</b>	<b>24.3</b>	<b>19.5</b>

who reported having seen health warnings on cigarette packets. This increase is statistically significant. From GATS 1 to GATS 2, there is an increase in the proportion of smokers, both male and female, who have noticed health warnings. The percentage of female smokers noticing health warnings has more than doubled. For male as well as female smokers, the increase is statistically significant. Similarly, there is an increase in the proportion of smokers, both from urban (relative change 10.4%) and rural (relative change 21.3%) areas, who noticed

health warnings; this increase too is statistically significant.

Among smokers, the net effect of health warnings on cigarette packets leading to quitting has increased between 2009-10 and 2016-17. This increase of 23.9 percentage points (relative increase 62.9%) is statistically significant. The net effect of health warnings on a cigarette packet leading to quitting increased significantly among male as well as female smokers; the magnitude of increase among

**Table 8.9:** Percentage of adults aged 15 or above who noticed smokeless tobacco marketing during the last 30 days at various places by status of smokeless tobacco use, according to background characteristics, GATS 2 India, 2016-17

Place/Source	Overall	Gender		Age		Residence	
		Male	Female	15-24	25+	Urban	Rural
<b>Overall</b>							
Point of sale <sup>1</sup>	8.4	11.5	5.1	10.1	7.7	10.5	7.3
Electronic media <sup>2</sup>	11.7	13.5	9.7	14.5	10.6	14.7	10.1
Outdoor <sup>3</sup>	11.7	16.3	7.0	14.4	10.7	13.9	10.6
Print media <sup>4</sup>	6.2	9.1	3.2	8.4	5.4	8.1	5.2
Other <sup>5</sup>	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Noticed advertisement in any location	18.3	22.4	14.1	21.5	17.2	21.4	16.7
Noticed any promotion <sup>6</sup>	5.7	7.8	3.5	6.7	5.4	6.6	5.3
Noticed any advertisement or promotion	20.5	25.2	15.6	23.9	19.3	23.7	18.9
<b>Current user of smokeless tobacco</b>							
Point of sale <sup>1</sup>	10.7	12.8	5.6	15.3	10.0	14.8	9.3
Electronic media <sup>2</sup>	12.5	13.7	9.5	16.7	11.8	18.8	10.5
Outdoor <sup>3</sup>	14.1	17.6	5.5	19.8	13.2	17.4	13.0
Print media <sup>4</sup>	6.9	9.1	1.5	10.0	6.4	10.6	5.7
Other <sup>5</sup>	0.1	0.1	0.2	0.1	0.1	0.2	0.1
Noticed advertisement in any location	21.4	24.3	14.3	26.3	20.6	26.6	19.7
Noticed any promotion <sup>6</sup>	8.0	9.9	3.6	9.9	7.7	10.1	7.3
Noticed any advertisement or promotion	24.3	27.8	15.9	30.0	23.4	30.4	22.3
<b>Current non-user of smokeless tobacco</b>							
Point of sale <sup>1</sup>	7.7	10.9	5.1	9.5	7.0	9.7	6.6
Electronic media <sup>2</sup>	11.5	13.5	9.8	14.3	10.2	14.0	10.0
Outdoor <sup>3</sup>	11.1	15.7	7.2	13.8	9.9	13.3	9.8
Print media <sup>4</sup>	6.0	9.1	3.5	8.2	5.1	7.7	5.1
Other <sup>5</sup>	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Noticed advertisement in any location	17.5	21.6	14.1	20.9	16.0	20.4	15.8
Noticed any promotion <sup>6</sup>	5.1	7.0	3.5	6.3	4.6	5.9	4.6
Noticed any advertisement or promotion	19.5	24.2	15.5	23.2	17.9	22.5	17.7

**Note:** 1 Point of sale includes stores.

2 Electronic media includes TV/radio/internet/cinemas.

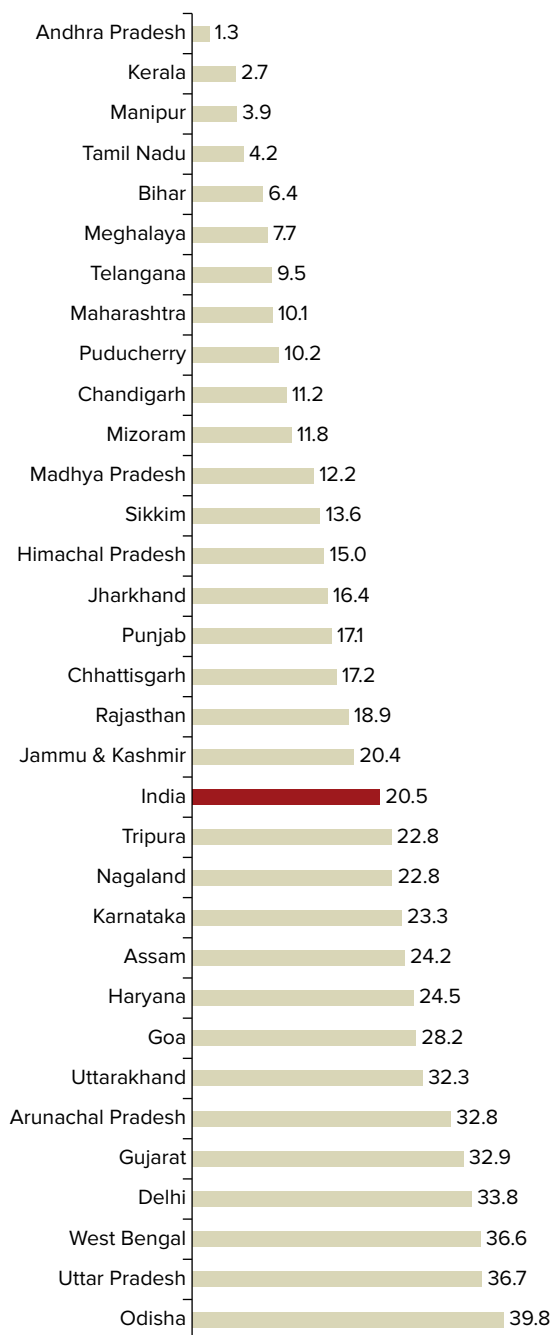
3 Outdoor includes billboard/hoardings/posters/public transportation vehicles or stations/public walls.

4 Print media includes newspaper and magazine.

5 Others include anywhere else.

6 Includes free samples/at sale prices/free gifts or special discount offers/brand name or logo/promos in the mail/surrogate advertisement promoting other products.

**Figure 8.8:** Percentage of adults who noticed any smokeless tobacco advertisement or promotion by states/UTs, GATS 2 India, 2016-17



female smokers (relative change of 181.1%) is higher than with male smokers (relative change of 60.7%), and for cigarette smokers in rural areas (relative change 74.0%) as compared to urban areas (relative change 47.1%). All these changes are statistically significant.

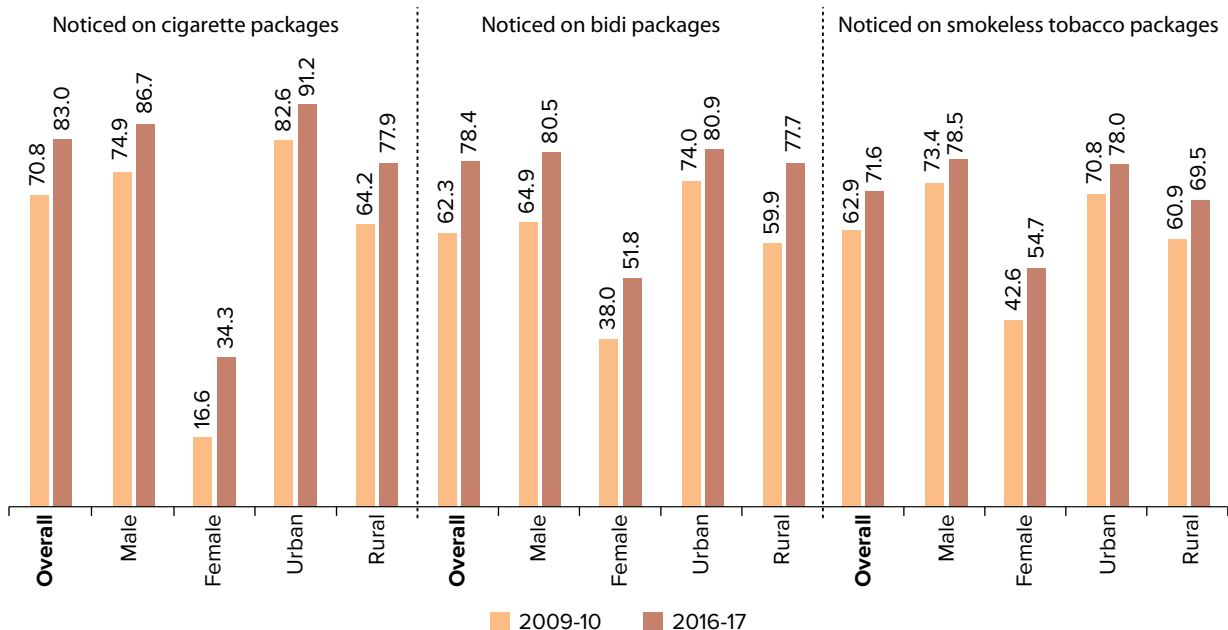
Between GATS 1 and GATS 2, the proportion of smokers who noticed warnings on *bidi* packets has increased by 16.1 percentage points (relative increase 25.8%). Although in GATS 1 as well as GATS 2, the proportion of *bidi* smokers who noticed warning labels is lower than the corresponding figure for cigarette smokers, the relative increase among *bidi* smokers who noticed health warnings on *bidi* packets (25.8%) is higher than the relative increase among cigarette smokers who noticed health warnings on cigarette packets (17.2%). All these increases are statistically significant.

Although in GATS 2, the proportion of women noticing the warning label on *bidi* packages (51.8%) is much lower than that among men (80.5%), the relative increase is much higher for women (36.3%) as compared to men (24.0%). When it comes to net effect of warning label on quitting in *bidi* smokers, the relative increase is 80.6 percent for men and 108.8 percent for women. The same catching up or narrowing of the gap in warning labels promoting quitting is seen for *bidi* smokers across urban and rural areas as well. There is a relative increase of 93.8 percent for rural areas and 44.8 percent for urban areas—both of which are statistically significant.

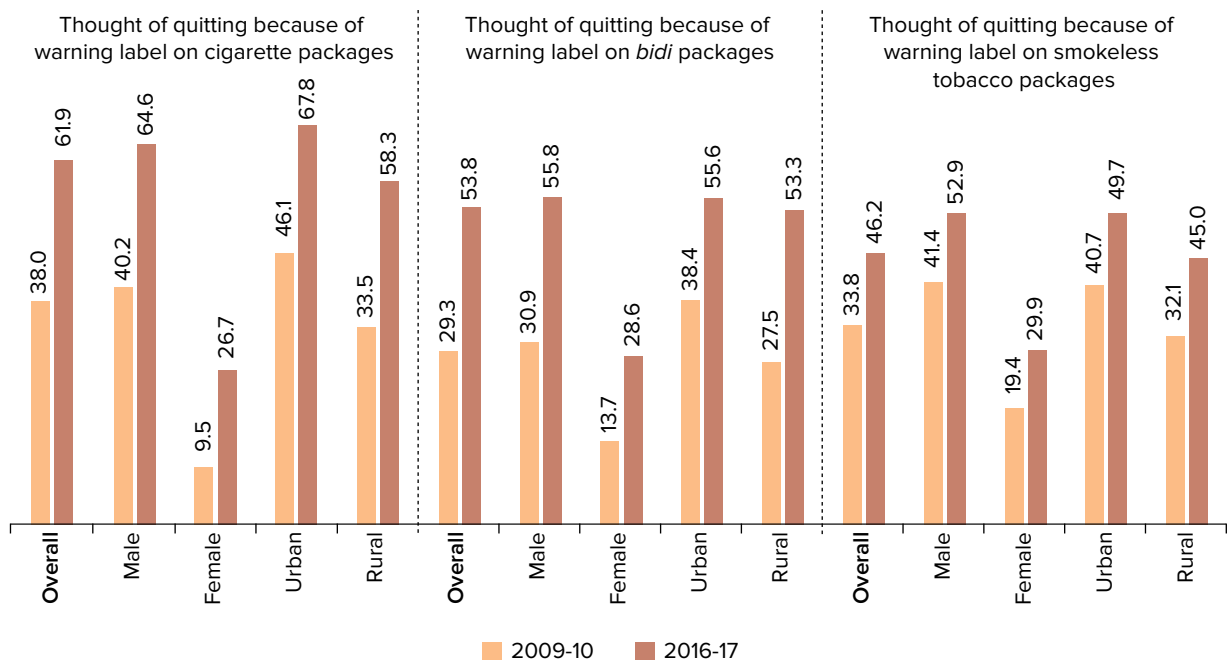
Among smokeless tobacco users, the proportion of those who noticed warnings on smokeless tobacco products has increased by 8.7 percentage points between GATS 1 and GATS 2; the relative increase is 13.8 percent and is statistically significant. Increase in the proportion of current smokeless tobacco users who noticed health warnings on smokeless tobacco packages is less as compared to the increase in the proportion of current cigarette and *bidi* smokers who noticed health warning on cigarette and *bidi* packages respectively. The relative change in net effect of warning labels leading to thinking of quitting is also smaller for smokeless tobacco (36.7%) as compared to *bidi* smokers (83.6%) and cigarette smokers (62.9%).

The relative increase in noticing the warning label packages of smokeless tobacco is much

**Figure 8.9:** Change in percentage of adults who noticed warning labels on cigarette, *bidi* and smokeless tobacco packages, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



**Figure 8.10:** Change in percentage of adults who thought of quitting because of warning labels on cigarette, *bidi* and smokeless tobacco packages, GATS 1 India, 2009-10 and GATS 2 India, 2016-17



smaller for men (relative change 6.9%) as compared to women (relative change 28.4%). Difference between smokeless tobacco users

in urban and rural areas is not as high as it is for cigarettes and *bidis*; however, both increases are significant (Table 8.10).

**Table 8.10:** Changes in current cigarette, *bidi* smokers and smokeless tobacco users aged 15 or above who noticed health warning on cigarette, *bidi* and smokeless tobacco package and thought of quitting because of the warning label during the past 30 days by background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Characteristic	Current smokers						Current smokeless tobacco user											
	Noticed health warnings on cigarette package		Thought about quitting smoking because of warning label		Noticed health warnings on <i>bidi</i> package		Thought about quitting smoking because of warning label		Noticed health warnings on smokeless tobacco package		Thought about quitting because of warning label							
	2009-10	2016-17	2009-10	2016-17	2009-10	2016-17	2009-10	2016-17	2009-10	2016-17	2009-10	2016-17						
Overall	70.8	83.0	17.2**	38.0	61.9	62.9**	62.3	78.4	25.8**	29.3	53.8	83.6**	62.9	71.6	13.8**	33.8	46.2	36.7**
<b>Gender</b>																		
Male	74.9	86.7	15.8**	40.2	64.6	60.7**	64.9	80.5	24.0**	30.9	55.8	80.6**	73.4	78.5	6.9**	41.4	52.9	27.8**
Female	16.6	34.3	106.6**	9.5	26.7	181.1**	38.0	51.8	36.3**	13.7	28.6	108.8**	42.6	54.7	28.4**	19.4	29.9	54.1**
<b>Residence</b>																		
Urban	82.6	91.2	10.4**	46.1	67.8	47.1**	74.0	80.9	9.3**	38.4	55.6	44.8**	70.8	78.0	10.2**	40.7	49.7	22.1**
Rural	64.2	77.9	21.3**	33.5	58.3	74.0**	59.9	77.7	29.7**	27.5	53.3	93.8**	60.9	69.5	14.1**	32.1	45.0	40.2**

Note: \*p<0.05, \*\* p<0.01



### 8.3.3 Changes in exposure to promotion of tobacco use

Between GATS 1 and GATS 2, there has been a decrease in the proportion of adults who noticed cigarette, *bidi* and smokeless tobacco promotions. The relative decreases in all the three—the proportion of adults who noticed cigarette promotion (28.4%), *bidi* promotion (20.6%) and smokeless tobacco product promotion (35.2%)—are statistically significant.

The relative decrease in the proportion who noticed cigarette promotions is higher among men than women, whereas the proportion who noticed *bidi* and smokeless tobacco products promotion is higher among women than men. The decreases in the proportion of adults who noticed cigarette, *bidi* and smokeless tobacco

products promotion are statistically significant for both men and women. Similarly, the relative decreases, while being small in certain cases, are significantly lower for both age groups (15-24 year old and those above 25 years). The differences between GATS 1 and GATS 2 vary from one-four percentage points for both age groups. The relative decreases for people in urban and rural areas are also significant. This indicates that now, lesser proportion of people notice promotional activities in both areas compared to GATS 1. The biggest decrease was in noticing promotions of smokeless tobacco products in urban areas (4.2 percentage points). There is one exception to this trend of reduced exposure across all background characteristics—*bidi* smokers experienced a small increase in exposure to promotional activities; however, this change is not statistically significant.

**Table 8.11:** Changes in the percentages of adults who noticed cigarette, *bidi* and smokeless tobacco promotion during the last 30 days by background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

	Noticed any cigarette promotion <sup>1</sup>			Noticed any <i>bidi</i> promotion <sup>1</sup>			Noticed any smokeless tobacco promotion <sup>1</sup>		
	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change	2009-10	2016-17	Relative change
<b>Overall</b>	7.4	5.3	-28.4**	6.8	5.4	-20.6**	8.8	5.7	-35.2**
<b>Gender</b>									
Male	9.9	6.9	-30.3**	8.8	7.3	-17.0**	11.5	7.8	-32.2**
Female	4.6	3.6	-21.7**	4.6	3.4	-26.1**	5.9	3.5	-40.7**
<b>Age (years)</b>									
15-24	9.2	6.5	-29.3**	7.6	6.2	-18.4**	10.7	6.7	-37.4**
25+	6.6	4.8	-27.3**	6.4	5.1	-20.3**	8.0	5.4	-32.5**
<b>Residence</b>									
Urban	9.8	6.2	-36.7**	7.6	4.8	-36.8**	10.8	6.6	-38.9**
Rural	6.3	4.8	-23.8**	6.5	5.7	-12.3**	8.0	5.3	-33.8**
<b>Tobacco use status</b>									
User	9.7	8.1	-16.5**	10.8	11.0	1.9	9.4	8.0	-14.9**
Non-user	7.0	4.9	-30.0**	6.1	4.7	-23.0**	8.6	5.1	-40.7**

**Note:** 1 Includes products at sale prices, free samples, free gifts or discount offers on other products when buying tobacco products, clothing or other items with brand name or logo of the product, promotion in mail and surrogate advertisement. \*p<0.05, \*\* p<0.01.

## Summary and Conclusion

- ❖ About 76.0 percent of all adults noticed anti-smoking information and 67.3 percent of all adults noticed anti-smokeless tobacco information on any media/location in the preceding 30 days. Among various media, television contributed the most to visibility of messages against tobacco use.
- ❖ 83.0 percent of current cigarette smokers, 78.4 percent of current *bidi* smokers and 71.6 percent of smokeless tobacco users noticed health warnings on the cigarette, *bidi* and smokeless tobacco packages respectively. 61.9 percent of cigarette smokers, 53.8 percent of *bidi* smokers and 46.2 percent of smokeless tobacco users noticed health warnings on packages and thought of quitting tobacco use because of the warning label.
- ❖ Between 2009-10 and 2016-17, there has been a significant increase in the proportion of smokers who reported having noticed health warnings on cigarette, *bidi* and smokeless tobacco product packets. The percentage of female smokers noticing health warnings has more than doubled. This significant increase is seen across urban as well as rural areas.
- ❖ The net effect of health warnings on a cigarette packet leading to thinking of quitting has also increased significantly among male and female smokers, with a greater change being seen in women as compared to men, and in rural as compared to urban areas.
- ❖ There has been a significant decrease in the proportion of adults who noticed any form of promotion of tobacco use. However, the fact that 5.3 percent adults are exposed to cigarette promotion, 5.4 percent to *bidi* promotion and 5.7 percent to smokeless tobacco product promotion is a matter of concern.
- ❖ The level of exposure to messages against smoking in different media and the level of exposure to promotional activities for tobacco products varies across states.

The changes seen between the two rounds of survey are encouraging, and show that government efforts at tobacco control are increasing in coverage and effectiveness. On the other hand, they also alert us to the fact that much more work has to be done, especially in those states where despite a high prevalence of tobacco use, exposure to messages against tobacco use is relatively low.

## CHAPTER 9

# KNOWLEDGE, ATTITUDE AND PERCEPTIONS

The harmful effects of tobacco use are well established in the scientific community, and acknowledged in civil as well as political society. All tobacco control programmes aim to ensure dissemination of knowledge on harmful effects of tobacco to the entire population, through messages in the media, and through schools, healthcare providers and community level initiatives. Such widespread dissemination has been one of the key strategies of India's National Tobacco Control Programme. It is also a necessary, though not sufficient, condition for the success of almost all other strategies of tobacco control.

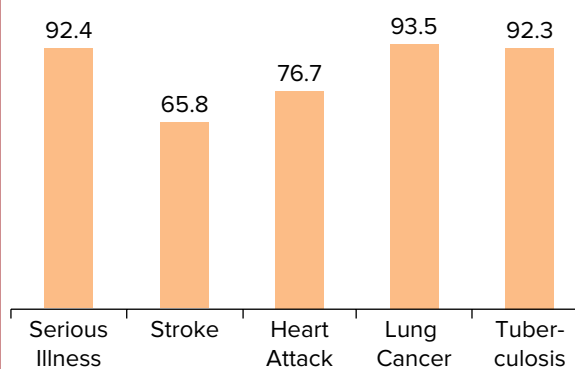
This chapter presents the findings of GATS 2 on the knowledge of adults\* about health effects of smoking and smokeless tobacco use. It also presents findings on awareness of harmful effects of second hand smoking. Finally, it presents findings on perceptions among tobacco users on the harm it has already done to them.

### 9.1 BELIEFS ABOUT HEALTH EFFECTS OF SMOKING

Table 9.1 and Figure 9.1 show that 92.4 percent of all adults believe that smoking causes serious illness. The figures for this remain more or less the same among smokers (91.3%) and non-smokers (92.6%).

The proportion of adults who believe that smoking affects health does not change much with gender. There is a small decreasing trend in the proportion with increasing age. The proportion of adults who believe that smoking causes serious illness is 93.8 percent in the

**Figure 9.1:** Percentage of adults who believe that smoking causes various diseases, GATS 2 India, 2016-17



youngest age-group of 15-24 years; it is 93.2 percent in the 25-44 year age-group. After that, it declines to 91.5 percent in the 45-64 year age-group, and to 87.0 percent among those aged 65 years and above.

There is a positive relationship between education level and the belief that smoking leads to serious illness. At one end, 95.4 percent of those with secondary or higher education believe that smoking causes serious illness; at the other end, 88.1 percent of those without any formal schooling believe so. The proportion of urban residents who believe that smoking causes serious illness exceeds that of rural residents by one percentage point. Among adults from different occupational groups, the proportion who believe that smoking causes serious illness ranges from 95.7 percent among students to 87.8 percent among retired/unemployed adults.

\* Adults wherever used in the text refers to persons aged 15 or above.

**Table 9.1:** Percentage of adults aged 15 or above who believe that smoking causes serious illness, stroke, heart attack, lung cancer and tuberculosis by smoking status, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Adults who believe that smoking causes					Adults who believe that smoking causes					Adults who believe that smoking causes				
	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness
	Overall					Current Smoker					Current non-smoker				
<b>Overall</b>	92.4	65.8	76.7	93.5	92.3	91.3	62.9	74.7	91.8	92.6	66.1	76.9	93.7	92.3	
<b>Gender</b>															
Men	92.8	69.5	79.4	95.3	94.3	92.0	64.9	76.5	93.0	93.3	70.6	80.1	95.8	94.5	
Women	92.0	61.9	73.8	91.6	90.3	84.8	43.4	56.7	80.0	85.9	62.3	74.2	91.9	90.4	
<b>Age</b>															
15-24	93.8	68.1	78.0	95.6	93.9	90.5	68.4	80.4	93.8	92.2	68.1	77.9	95.7	93.9	
25-44	93.2	66.7	78.0	94.2	92.8	92.4	63.7	75.5	93.9	93.4	67.0	78.3	94.3	92.7	
45-64	91.5	64.5	75.8	92.4	91.7	91.5	63.3	74.5	91.4	92.9	64.8	76.1	92.5	91.5	
65+	87.0	57.6	68.5	86.3	87.0	87.5	55.3	68.8	84.3	89.1	58.0	68.5	86.7	86.6	
<b>Residence</b>															
Urban	93.1	68.8	81.8	95.7	93.6	92.0	67.4	82.0	95.2	92.6	68.9	81.8	95.7	93.7	
Rural	92.1	64.2	74.0	92.4	91.6	91.1	61.3	72.1	90.5	92.6	64.6	74.3	92.6	91.5	
<b>Education level</b>															
No formal schooling	88.1	55.4	65.5	87.2	87.1	87.6	54.0	65.9	87.6	89.9	55.6	65.4	87.1	86.6	
Less than primary	90.2	63.0	74.9	91.2	90.9	90.6	61.8	75.2	90.8	91.5	63.3	74.9	91.3	90.8	

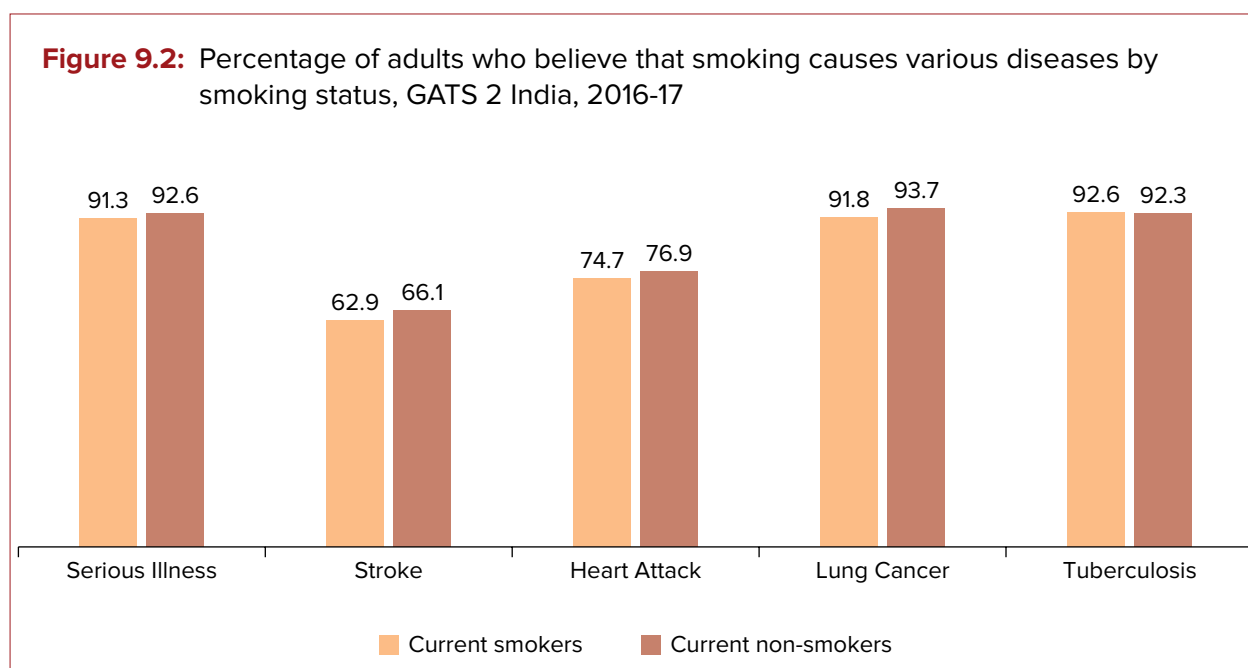
Background characteristic	Adults who believe that smoking causes						Adults who believe that smoking causes						Adults who believe that smoking causes							
	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness
	Overall						Current Smoker						Current non-smoker							
Primary but less than secondary	93.5	67.6	78.4	94.6	93.2	93.4	68.0	79.3	93.6	95.3	93.5	67.6	78.2	94.7	92.9					
Secondary and above	95.4	72.6	84.0	97.9	95.8	95.3	72.1	83.4	97.3	94.3	95.5	72.7	84.1	97.9	95.9					
<b>Occupation</b>																				
Government and non-government employee	94.2	73.6	85.3	96.9	95.4	94.2	70.6	82.3	97.1	95.3	94.2	74.0	85.6	96.9	95.4					
Self employed	91.8	66.0	75.7	93.1	92.4	91.4	62.9	75.1	92.4	92.7	91.9	66.7	75.8	93.2	92.3					
Student	95.7	72.4	82.5	98.2	95.8	91.6	80.0	83.5	98.9	89.8	95.8	72.3	82.5	98.1	95.9					
Home maker	92.3	61.0	73.6	92.0	90.2	87.4	47.5	60.8	82.5	87.3	92.4	61.3	73.9	92.2	90.3					
Retired or unemployed	87.8	61.1	72.2	88.9	90.2	89.4	60.4	70.0	85.1	92.2	87.5	61.2	72.6	89.6	89.8					

The relationship between background characteristics and proportion of adults disaggregated into smokers and non-smokers who believe that smoking causes serious illness is almost identical to the one described earlier for all adults. Among both, smokers and non-smokers, there is a similar declining trend in the proportion of those aware about health effects of smoking with age; the trend increases with increase in education level. Awareness is higher among smoker and non-smoker men, and adults from urban areas in comparison to their respective counterparts. With respect to occupation, salaried employees, government or non-government, have similar high proportions of those who believe in the serious ill-effects of smoking, irrespective of whether they are smokers or non-smokers (94.2%). Among non-smokers, a higher proportion of students (95.8%) believe in the relationship between smoking and serious illness; a lower proportion (87.5%) of retired/ unemployed adults believe the same.

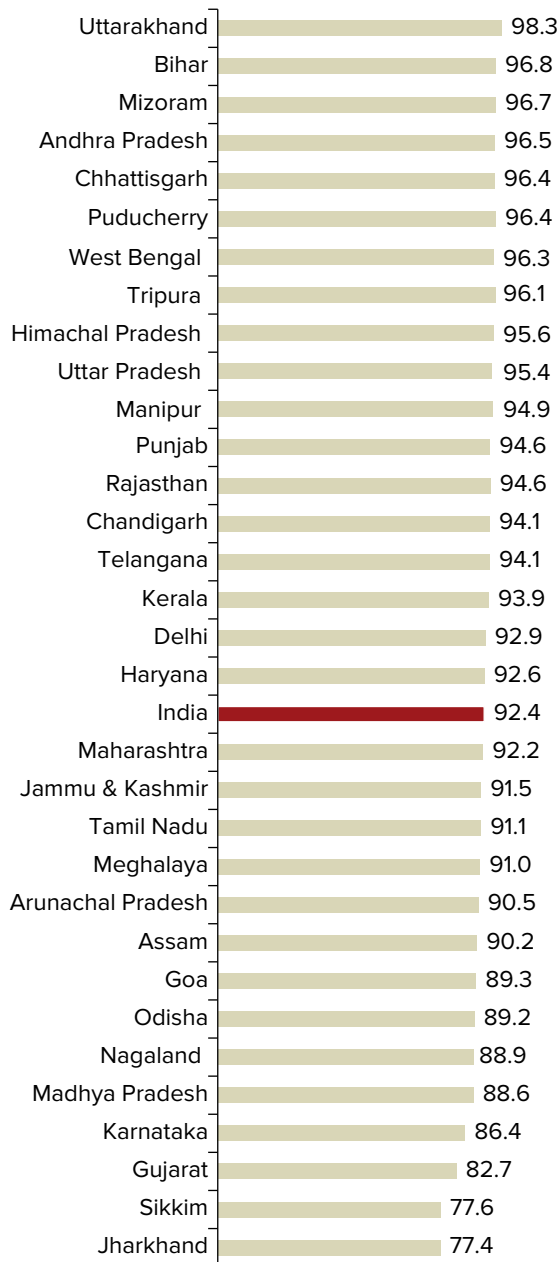
Among adults from most sub-groups based on gender, residence, education level or occupation, the proportion of those who believe that smoking causes serious illness is marginally less among smokers than non-smokers.

Respondents were asked separately about the relationship of smoking with four diseases—stroke, heart attack, lung cancer and tuberculosis. The highest proportion of them believed smoking was linked to lung cancer (93.5%), followed by tuberculosis (92.3%), heart attack (76.7%) and stroke (65.8%). The relationship between background characteristics and proportion of adults who believe that smoking causes each of the four diseases is almost identical to the one between background characteristics and proportion of adults who believe that smoking causes serious illness.

In each state/UT, at least 75 percent adults are aware that smoking causes serious illness. In most states/UTs, the proportion of adults who believe that smoking causes serious illness is higher than 90 percent (Figure 9.3 and Appendix Table A-9.1). The lowest levels of proportion on this link is reported from Jharkhand (77.4%), Sikkim (77.6%), Gujarat (82.7%), Karnataka (86.4%), Madhya Pradesh (88.6%), Nagaland (88.9%) and Odisha (89.2%). Similar to the national pattern, in almost all the states, the proportion of adults who believe that smoking causes lung cancer is the highest, followed by tuberculosis; lesser people believe smoking causes heart attack, and much lesser, stroke.



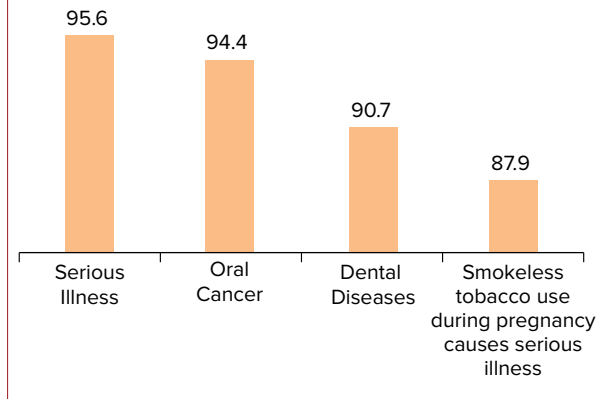
**Figure 9.3:** Percentage of adults who believe that smoking causes serious illness by states/UTs, GATS 2 India, 2016-17



## 9.2 BELIEFS ABOUT HEALTH EFFECTS OF SMOKELESS TOBACCO USE

It is evident from Table 9.2 and Figure 9.4 that over nine of ten adults aged 15 or above believe that use of smokeless tobacco causes serious illness, and that its use can lead to oral cancers and dental disease. The proportion

**Figure 9.4:** Percentage of adults who believe that smokeless tobacco use causes various diseases, GATS 2 India, 2016-17



of smokeless tobacco users who believe so is 94.0 percent for serious illness, 92.3 percent for oral cancers and 88.9 percent for dental diseases.

As seen earlier in the relationship between background characteristics and proportion who believed that smoking causes serious illness, the relationship between background characteristics and proportion who believe that smokeless tobacco use causes serious illness also exhibits modest gradients with key background characteristics of gender, age, residence, education levels and occupation. The proportion for knowledge of the link with any serious illness is higher in men (96.4%) as compared to women (94.8%); higher in younger as compared to older age-groups (ranging from 97.0 percent among age-group 15-24 year to 90.1 percent in the age-group of 65 years and above); more with urban residence (96.8%) as compared to rural residence (95.0%); more with secondary and above level of education (98.5%) compared to no formal schooling (91.6%); and more with students (98.5%) and government and non-government employees (97.8%) as compared to those who are retired or unemployed (91.9%).

This pattern of background characteristics and beliefs is the same with oral cancers and dental diseases; it is also same with current users of smokeless tobacco and current non-users of smokeless tobacco (Figure 9.5).

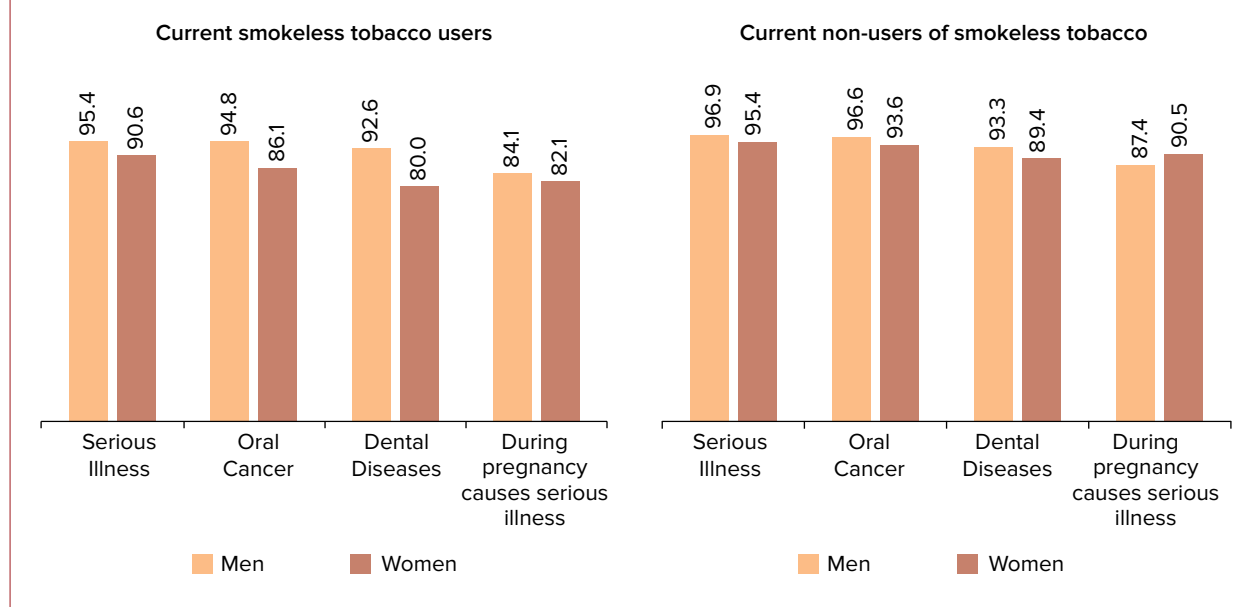


**Table 9.2:** Percentage of adults aged 15 or above who believe that use of smokeless tobacco causes serious illness, oral cancer, dental diseases and harm to foetus during pregnancy by smokeless tobacco use status, according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Who believe that smokeless tobacco use causes				Who believe that smokeless tobacco use causes				Who believe that smokeless tobacco use causes							
	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy
	Overall				Current users of smokeless tobacco				Current non-users of smokeless tobacco							
<b>Overall</b>	95.6	94.4	90.7	87.9	94.0	92.3	88.9	83.5	96.1	95.0	91.2	89.1				
<b>Gender</b>																
Men	96.4	96.1	93.1	86.4	95.4	94.8	92.6	84.1	96.9	96.6	93.3	87.4				
Women	94.8	92.7	88.2	89.5	90.6	86.1	80.0	82.1	95.4	93.6	89.4	90.5				
<b>Age</b>																
15-24	97.0	96.2	92.3	87.9	94.8	93.7	88.6	83.6	97.2	96.5	92.7	88.4				
25-44	96.4	95.4	92.0	89.8	95.3	94.4	91.4	84.9	96.7	95.7	92.1	91.3				
45-64	94.8	93.4	89.1	87.0	93.7	92.1	88.1	83.1	95.2	94.0	89.5	88.5				
65+	90.1	86.6	84.1	81.0	88.6	82.8	82.0	78.8	90.7	88.2	85.0	81.9				
<b>Residence</b>																
Urban	96.8	96.4	92.1	89.7	94.7	94.3	91.3	84.8	97.2	96.7	92.3	90.6				
Rural	95.0	93.4	90.0	86.9	93.8	91.6	88.2	83.1	95.4	94.0	90.6	88.2				
<b>Education level</b>																
No formal schooling	91.6	88.7	85.3	82.3	91.0	87.0	83.1	78.2	91.8	89.4	86.3	84.0				
Less than primary	93.5	92.1	88.0	84.2	92.8	90.7	89.1	80.8	93.8	92.7	87.5	85.6				

Background characteristic	Who believe that smokeless tobacco use causes				Who believe that smokeless tobacco use causes				Who believe that smokeless tobacco use causes			
	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy	Serious illness	Oral cancer	Dental diseases	Harm to foetus during pregnancy
	Overall				Current users of smokeless tobacco				Current non-users of smokeless tobacco			
Primary but less than secondary	96.5	95.6	91.1	88.4	96.0	95.8	91.1	86.2	96.7	95.5	91.1	89.2
Secondary and above	98.5	98.3	95.0	92.5	97.2	97.4	96.1	90.7	98.7	98.4	94.9	92.7
<b>Occupation</b>												
Government and non-government employee	97.8	97.4	94.8	92.2	97.3	95.7	94.0	90.2	97.9	97.8	95.1	92.8
Self employed	95.2	94.5	90.8	85.8	94.5	93.5	90.8	82.4	95.6	95.1	90.8	87.4
Student	98.5	98.1	94.6	89.3	95.1	94.7	89.9	91.0	98.6	98.2	94.8	89.3
Home maker	95.1	92.6	88.4	90.1	91.4	87.0	80.7	84.4	95.6	93.4	89.4	90.9
Retired or unemployed	91.9	90.5	86.8	81.1	90.0	88.0	83.4	78.6	92.5	91.3	88.0	82.0

**Figure 9.5:** Percentage of adults who believe that smokeless tobacco use causes various diseases, by gender, GATS 2 India, 2016-17



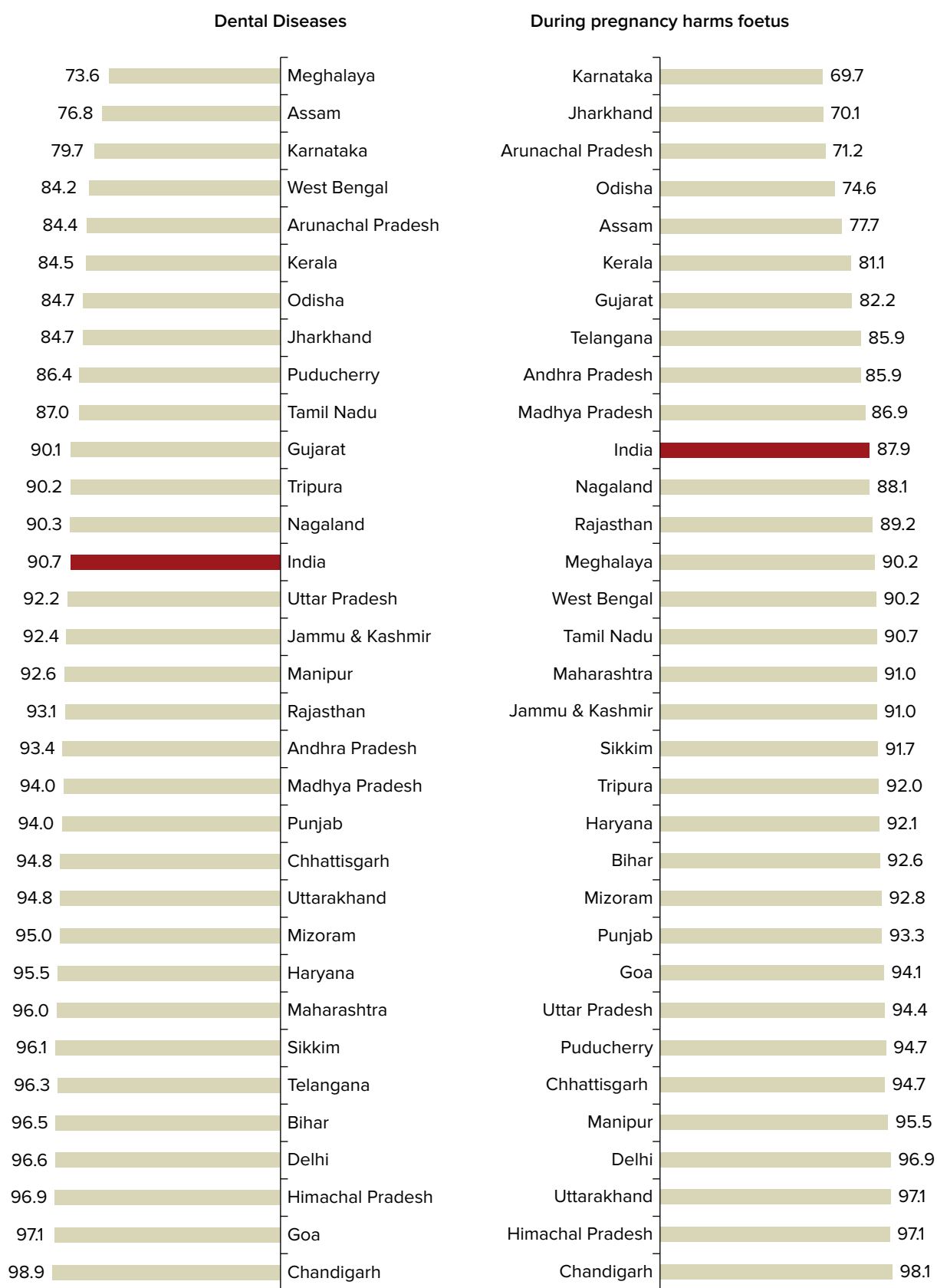
One additional question in GATS 2 pertained to knowledge regarding harm caused to the foetus owing to use of smokeless tobacco during pregnancy. The proportion of those who believe in this link is high—it is 87.9 percent for all adults; 83.5 percent in users of smokeless tobacco; and 89.1 percent in non-users of smokeless tobacco. However, as is evident, this is much less than the belief in other ill-effects of smokeless tobacco use. The gradients in proportions who believe in the link between smokeless tobacco use and foetal harm according to varying background characteristics are similar to trends regarding belief in other ill effects of smokeless tobacco use. It may be noted that in the vulnerable population, like those with no formal schooling, the proportion of smokeless tobacco users who believe that its use during pregnancy causes ill effects to the foetus drops to as low as 78.2 percent.

State-level differentials in the proportion of adults who believe that use of smokeless tobacco causes different diseases vary across the diseases (appendix table A-9.2). For any serious illness, except for Karnataka (89.1%), all states/ UTs show that well over 90 percent adults believe that use of smokeless tobacco

causes serious illness. Ninety percent or more adults in all states/ UTs barring Assam (84.8%), Odisha (86.4%), Meghalaya (87.8%) and Jharkhand (89.8%) believe that use of smokeless tobacco use leads to oral cancer. The proportion of those who believe in the link between smokeless tobacco use and dental diseases in the aforementioned states is less than 90 percent. In West Bengal (84.2%), Arunachal Pradesh (84.4%), Puducherry (86.4%) and Tamil Nadu (87.0%) too, less than 90 percent are aware of the link between use of smokeless tobacco and dental disease. The figure is lowest for Meghalaya, at 73.6 percent (Figure 9.6).

When it comes to the ill effects of smokeless tobacco use during pregnancy on the foetus (Appendix Table A-9.2 and Figure 9.6), in as many as 12 out of 32 states/UTs, the proportion of adults aware of this link is less than 90 percent. Out of these 12 states, in five states, it is below 80 percent. In Karnataka, the figure is as low as 69.7 percent. Among users of smokeless tobacco, the national indicator value for belief that use of smokeless tobacco during pregnancy causes harm to the foetus is 83.5 percent. In as many as 20 out of 32 states/UTs, less than 90 percent of the adult population is aware of this

**Figure 9.6:** Percentage of adults who believe that smokeless tobacco use causes dental diseases and during pregnancy harms foetus by states/UTs, GATS 2 India, 2016-17



link. In nine out of these 18 states, less than 80 percent adults, and in six of these states, less than 70 percent adults are aware of it.

### 9.3 BELIEF ABOUT HEALTH EFFECTS OF SECOND HAND SMOKE

A number of studies are now available to show second hand smoking is harmful to non-smokers,

and it is important that not only non-smokers, but even smokers know about it. GATS 2 collected information on the perception of people regarding the adverse impact of exposure to second hand smoke on adults and children.

The main finding, as seen in Table 9.3, is that 92.4 percent of all adults aged 15 and above believe that second hand smoking does lead to serious illness in non-smokers, and as many as 93.3 percent believe that it does so in

**Table 9.3:** Percentage of adults aged 15 or above who believe that breathing other people’s smoke causes serious illness among non-smokers by gender and status of smoking by background characteristics, GATS 2 India, 2016-17

Background characteristic	Who believe that breathing other people’s smoke causes serious illness in non-smokers			Who believe that breathing other people’s smoke causes serious illness among children		
	Overall	Current smoker	Current non-smoker	Overall	Current smoker	Current non-smoker
Overall	92.4	91.0	92.6	93.3	91.8	93.5
<b>Gender</b>						
Men	94.0	92.0	94.5	94.8	92.7	95.3
Women	90.8	80.9	91.0	91.8	82.9	91.9
<b>Age</b>						
15-24	94.4	93.5	94.4	95.3	95.8	95.3
25-44	93.3	93.2	93.4	94.2	93.7	94.3
45-64	91.1	90.1	91.3	91.9	90.8	92.1
65+	85.5	84.1	85.8	86.4	85.5	86.5
<b>Residence</b>						
Urban	94.5	94.7	94.5	95.2	94.8	95.2
Rural	91.3	89.6	91.6	92.3	90.7	92.5
<b>Education level</b>						
No formal schooling	86.3	86.1	86.3	87.1	86.6	87.2
Less than primary	90.3	91.1	90.2	90.6	91.8	90.3
Primary but less than secondary	93.6	93.2	93.6	94.6	94.1	94.7
Secondary and above	96.6	96.1	96.7	97.5	97.7	97.5
<b>Occupation</b>						
Government and non-government employee	96.1	96.3	96.1	96.6	97.3	96.5
Self employed	92.1	91.4	92.2	92.7	91.8	93
Student	96.9	97.1	96.9	97.4	98.7	97.4
Home maker	90.9	82.7	91.1	92.1	85.3	92.3
Retired or unemployed	87.7	85.5	88.1	89.0	87.6	89.2

children as well. The proportions are not very different between smokers and non-smokers, though marginally higher in non-smokers (92.6% in nonsmokers as compared to 91.0% in smokers).

There is a modest variation in the proportion of adults in various sub-groups according to background characteristics who believe that breathing other people’s smoke causes serious illness among non-smokers. The same trends, as were seen for perceptions of harmful effect of smoking and smokeless tobacco use, are seen here as well. This trend is seen even in perceptions about to the link between second hand smoking and serious illness in children. As described earlier, the proportion is higher in men compared to women; in the age-group 15-24 years compared to older age-groups; in urban compared to rural residence; in those with education compared to no formal schooling; in students and employees as compared to self-employed, home makers and retired or unemployed.

The pattern of awareness regarding harmful effects of second hand smoke on non-smokers and on children across 32 states/UTs is given in appendix table A-9.3. In most of the states, over 90 percent adults believe that second hand smoking causes serious illnesses in non-smokers and in children. However, in nine states, 83-90 percent adults believe second hand smoke causes serious illness in non-smokers. As regards the link between second hand smoke and illness in children, only six states had proportions less than 90 percent, but above 85 percent.

## 9.4 PERCEPTION ON HARM TO SELF DUE TO TOBACCO USE

In the second round of GATS India, questions were added relating the impact of smoked/ smokeless forms of tobacco on one’s own health. Answers were graded according to the following parameters: definitely not affecting,

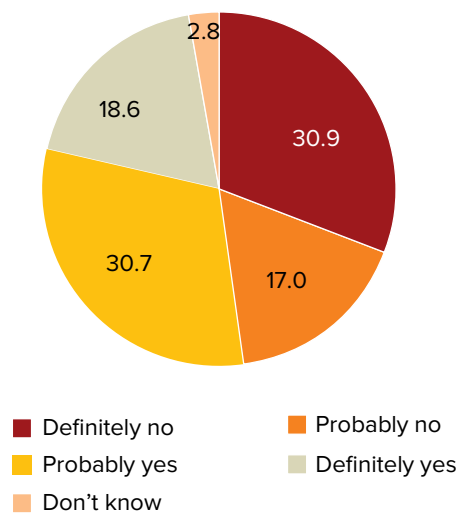
probably not effecting, probably affecting, definitely affecting and do not know. For ease of communication and interpretation, we could aggregate the first two—definitely and probably not affecting—into NO and the next two into YES. There is a case for aggregating the “do not know” with “YES” as that too is a reasonable answer, but for now, we have chosen to leave that out.

### 9.4.1 Perception of Harm to self due to Smoking

Based on the findings shown in Table 9.4 and Figure 9.7, it can be seen that in the perception of 47.9 percent smokers, no harm had resulted to self; among them, two-thirds (30.9% of smokers) are quite definite in their perception of no harm having occurred and one-third (17.0% of smokers) are more tentative. An almost equal proportion (49.3%) perceived as having been harmed by tobacco use, of whom two-thirds (30.7% of smokers) are tentative and the remaining one-third (18.6% of smokers) are definite that smoking has caused them harm.

Further analysis according to background characteristics shows that the proportion of smokers who perceive that bodily harm has

**Figure 9.7:** Percent distribution of current smokers by perception of the effects of smoking on health, GATS 2 India, 2016-17



resulted (yes) is more among men (50.3%) than women (39.2%); more among urban (50.9%) compared to rural residents (48.7%); more among smokers with higher levels of education (50.8%) as compared to those with no formal schooling (45.0%); and more among students (61.9%). All of this matches the patterns seen with belief that tobacco use or second hand smoking causes harm. What is different, however, is that lesser proportion of younger adults aged 15-24 (44.9%) perceive harm to themselves than older

age-groups (51.2% for age-group 45-64 and 47.0% in 65 and above), where as 62 percent of students perceive harm to themselves.

There is a sharp variation in the proportion who report YES (definitely or probably yes) across states/ UTs (Appendix Table A-9.4). The perception that smoking has affected one's body is least among smokers in Gujarat (16.4%), Maharashtra (26.8%), Chhattisgarh (28.4%) and Chandigarh (29.4%). Clearly, the perception that

**Table 9.4:** Percent distribution of current smokers by perception about the effects of smoking on health by background characteristics, GATS 2 India, 2016-17

Background characteristic	Know or believe, has smoking already done any harm to body				
	Definitely no	Probably no	Probably yes	Definitely Yes	Do not know
<b>Overall</b>	30.9	17.0	30.7	18.6	2.8
<b>Gender</b>					
Men	30.1	17.0	31.7	18.6	2.6
Women	39.6	16.5	20.7	18.5	4.7
<b>Age</b>					
15-24	34.6	18.1	27.6	17.3	2.4
25-44	30.9	17.5	31.3	17.8	2.4
45-64	29.0	16.8	31.2	20.0	3.1
65+	34.4	15.1	29.2	17.8	3.6
<b>Residence</b>					
Urban	26.2	19.7	32.4	18.5	3.2
Rural	32.7	16.0	30.1	18.6	2.7
<b>Education level</b>					
No formal schooling	34.2	17.7	28.2	16.8	3.0
Less than primary	33.0	16.1	28.2	20.2	2.4
Primary but less than secondary	27.1	16.6	34.3	19.4	2.6
Secondary and above	29.3	16.9	31.6	19.2	3.0
<b>Occupation</b>					
Government and non-government employee	36.1	17.7	28.5	13.9	3.7
Self employed	29.9	17.5	31.6	18.6	2.3
Student	29.7	7.9	38.7	23.2	0.6
Home maker	38.8	13.8	22.7	20.8	3.9
Retired or unemployed	27.1	15.4	30.3	22.7	4.5

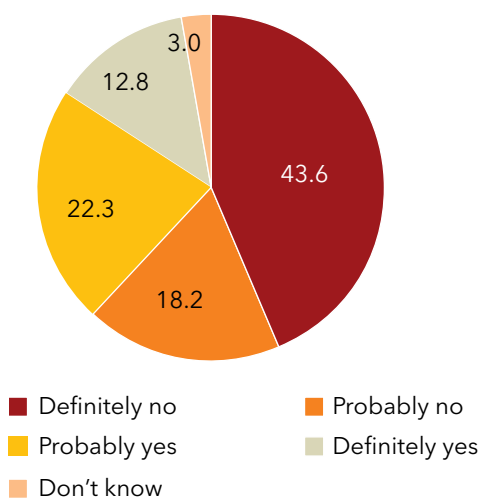


tobacco smoking is causing harm to oneself can vary widely from the knowledge that tobacco smoking can lead to serious illness.

### 9.4.2 Perception of Harm to Oneself due to use of smokeless tobacco

Table 9.5 and Figure 9.8 present the findings regarding smokeless tobacco users' perceptions about harm done to their own body due to use of smokeless tobacco. Earlier, we saw that there is little difference among adults in the knowledge regarding the harm caused by either form of tobacco use. However, when it comes to perception about the impact of smokeless tobacco use on one's own body, the figures are much lesser. Only 12.8 percent of smokeless tobacco users perceive definite harm, and another 22.3 percent perceive probable harm; together, they constitute 35.1 percent who say YES. In contrast, 61.8 percent perceive no harm; as many as 70 percent (43.6% of smokeless tobacco users) of them replied with a definite NO. In comparison to smokers (49.3%), lesser proportion of smokeless tobacco users (35.1%) perceive harm to their body due to tobacco use.

**Figure 9.8:** Percent distribution of current smokeless tobacco users by perception of the effects of smokeless tobacco use on health, GATS 2 India, 2016-17



Perception of harm varies with background characteristics. Clearly, higher proportion of men perceive harm (37.4%) as compared to women (29.6%). There is little difference in proportions of smokeless tobacco users perceiving harm across urban (35.0) and rural (35.2) areas. Larger proportion of those with higher education perceive harm than those with no formal schooling. Lower proportion of home makers perceive harm in comparison to their counterparts. As with smokers, higher proportion of users of smokeless tobacco in the 45-64 year age-group perceive harm (37.4%) than younger adults in the 15-24 year age-group (30.8%). This is despite higher knowledge levels in the younger group.

Across states/UTs, (Appendix Table A-9.4) the perception that harm has resulted from use of smokeless tobacco among users of the same is least in Gujarat (16.9%), followed by Chandigarh (17.7%), Chhattisgarh (25.7%), Odisha (26.2%), Bihar (26.5%) and Maharashtra (29.2%). These patterns across states bear further investigation.

## 9.5 BELIEF THAT TOBACCO USE CAUSES ADDICTION

One question introduced in GATS 2 related to knowledge about the addictive nature of tobacco use. Over 92.9 percent adults believe that tobacco use is addictive—this remains high in users as well as non-users and across all states (Appendix Table A-9.5). Except Karnataka (84.3%), Assam (84.1%) and Kerala (85.2%), 90 percent or more adults in all other states/ UTs believe that tobacco use is addictive.

## 9.6 CHANGES FROM GATS 1 TO GATS 2

It is important to study the changes in proportions of people who believe that smoking or use of smokeless tobacco and second hand smoke has harmful effects. These findings are presented in Table 9.6. The change with

**Table 9.5:** Percentage of current smokers by perception about the effect of smoking on their health according to background characteristics, GATS 2 India, 2016-17

Background characteristic	Know or believe, has using smokeless tobacco already done any harm to body				
	Definitely no	Probably no	Probably yes	Definitely Yes	Do not know
<b>Overall</b>	43.6	18.2	22.3	12.8	3.0
<b>Gender</b>					
Men	41.9	18.8	24.4	13.0	1.9
Women	47.8	16.9	17.2	12.4	5.6
<b>Age</b>					
15-24	48.3	18.3	19.2	11.6	2.5
25-44	43.2	18.9	22.7	12.2	3.0
45-64	41.6	17.9	22.9	14.5	3.2
65+	45.2	16.5	22.9	12.4	3.1
<b>Residence</b>					
Urban	41.2	20.5	22.0	13.0	3.4
Rural	44.4	17.5	22.4	12.8	2.9
<b>Education level</b>					
No formal schooling	46.6	17.4	19.0	13.0	4.0
Less than primary	39.6	20.5	24.4	11.9	3.6
Primary but less than secondary	43.7	18.1	23.2	12.9	2.1
Secondary and above	40.9	18.6	25.3	13.2	2.1
<b>Occupation</b>					
Government and non-government employee	43.5	21.2	23.9	10.6	0.8
Self employed	43.1	18.3	23.2	12.9	2.5
Student	41.2	21.3	24.6	10.6	2.3
Home maker	47.8	16.1	17.0	13.4	5.7
Retired or unemployed	39.4	17.9	24.1	14.5	4.1

respect to perception of harm to oneself cannot be studied because GATS 1 did not have that question.

From GATS 1 to GATS 2, there is an increase in the proportion of adults aware of the harmful effects of smoking, smokeless tobacco use and exposure to second hand smoke. The relative

change in the belief that serious illness could be caused by smoking is a modest 2.4 percent; for smokeless tobacco use, it is 7.7 percent; and for second hand smoke, it is a healthy 11.6 percent. The increase in all three indicators is statistically significant. Part of the reason for the differential magnitude of change in the proportions between GATS 1 and GATS 2 could

be because at the time of GATS 1, 90.2 percent of adults already believed that smoking caused serious illness, and this went up to 92.4 percent in GATS 2. On the other hand, at the time of GATS 1, only 88.8 percent adults and 82.9 percent smokers believed that use of smokeless tobacco caused serious illness; that figure has now risen to 95.6 percent for all adults and 92.5 percent for smokers.

This 'catching up phenomena' is seen across all background characteristics, as well as for all three areas of knowledge—the harmful effects of smoking, smokeless tobacco and second hand smoke.

This relative increase is more among current smokers (4.5%) as compared to non-smokers (2.1%); among women (3.6%) compared to men (1.4%); in rural (3.8%) compared to urban areas (-0.7%); in older adults (6.1% in the age-group 65 and above) as compared to younger adults (1.5% in the age-group 15-24), with a gradation in the in-between age-groups. All these changes between GATS 1 and GATS 2 are statistically significant. With respect to adults who believe that smokeless tobacco use causes serious illness, their proportion has also increased across all background characteristics, and the increases are statistically significant. The increases are more in current smokeless tobacco users (8.7%) compared to non-users (7.3%); in women (8.6%) compared to men (7.0%); in rural areas (9.2%) as compared to urban areas (4.1%); in older adults (12.9% in the age-group 65 and above) as compared to younger adults (5.9% in the age-group 15-24), with a gradation in the in-between age-group.

This pattern of catching up with greater momentum, especially among sub-groups with lesser proportion of adults who believe in the linkage, becomes more visible when one looks at second hand smoking. The relative change between GATS 1 and GATS 2 in adults who believe that breathing other people's smoke causes serious illness in non-smokers is more in current smokers (16.8%) as compared to non-smokers (10.6%); in women (12.4%) compared to men (10.7%); in rural areas (13.1%) compared to

urban areas (7.4%); in older adults (17.4% in the age-group 65 and above) compared to younger adults (8.5% in the age-group 15-24), with a gradation in the in-between age-groups. In all these instances, even after a greater change in the former sub-group, it is the latter that has better levels of awareness. Again, all these changes are statistically significant.

In conclusion, there are significant increases since GATS 1 regarding awareness of the harmful effects of smoking, use of smokeless tobacco and of second hand smoking on non-smokers, overall as well as across all sub-groups based on background characteristics. These increases are higher in sub-groups where knowledge gaps were higher; even though such gaps have not closed, they are less.

## Summary and Conclusions

- ❖ Currently, knowledge of the harmful effects of tobacco is widespread, with over 92.4 percent all adults being aware that smoking causes serious illness; 95.6 percent knowing that smokeless tobacco causes serious illness; 92.4 percent knowing that second hand smoke causes serious illness in non-smokers, and 93.3 percent knowing that it causes serious illness in children. Further, 87.9 percent adults believe that use of smokeless tobacco during pregnancy harms the foetus.
- ❖ From GATS 1 to GATS 2, there has been an increase in the proportion of adults who are aware of the harmful effects of smoking, smokeless tobacco use and exposure to second hand smoke.

However, when it comes to the impact of tobacco use on one's own body, the majority of tobacco smokers and smokeless tobacco users feel harm has not been done. Clearly, one of the challenges of health communication in the coming years is to change this perception. The lack of obvious symptoms attributable to tobacco does not mean that there are no ill-effects on the body. By the time these symptoms appear, it may be too late.

**Table 9.6:** Changes in the percentage of adults aged 15 or above who believe that use of smoking, smokeless tobacco use and breathing other people's smoke causes serious illness by background characteristics, GATS 1 India, 2009-10 and GATS 2 India, 2016-17

Adults who believe that smoking causes serious illness				Adults who believe that smokeless tobacco use causes serious illness				Adults who believe that breathing other people's smoke causes serious illness in non-smokers			
Characteristic	2009-10	2016-17	Relative change	Characteristic	2009-10	2016-17	Relative change	Characteristic	2009-10	2016-17	Relative change
Overall	90.2	92.4	2.4**	Overall	88.8	95.6	7.7**	Overall	82.9	92.5	11.6**
<b>Smoking Status</b>											
Current smokers	87.4	91.3	4.5**	Current smokeless tobacco user	86.5	94.0	8.7**	Current smokers	77.9	91.0	16.8**
Non-smokers	90.7	92.6	2.1**	Non-user	89.6	96.1	7.3**	Non-smokers	83.7	92.6	10.6**
<b>Gender</b>											
Men	91.5	92.8	1.4**	Male	90.1	96.4	7.0**	Male	84.9	94.0	10.7**
Women	88.8	92.0	3.6**	Female	87.3	94.8	8.6**	Female	80.8	90.8	12.4**
<b>Age (years)</b>											
15-24	92.4	93.8	1.5**	15-24	91.6	97.0	5.9**	15-24	86.6	94.0	8.5**
25-44	91.1	93.2	2.3**	25-44	89.6	96.4	7.6**	25-44	83.5	93.3	11.7**
45-64	88.1	91.5	3.9**	45-64	86.1	94.8	10.1**	45-64	79.8	91.1	14.2**
65+	82.0	87.0	6.1**	65+	79.8	90.1	12.9**	65+	72.9	85.6	17.4**
<b>Residence</b>											
Urban	93.8	93.1	-0.7**	Urban	93.0	96.8	4.1**	Urban	88.0	94.5	7.4**
Rural	88.7	92.1	3.8**	Rural	87.0	95.0	9.2**	Rural	80.8	91.4	13.1**

Note: \*p<0.05, \*\* p<0.01.

## CHAPTER 10

# CONCLUSION AND RECOMMENDATIONS



The second round of the Global Adult Tobacco Survey in India (GATS 2) was conducted in 2016-17, seven years after the first round in 2009-10. The survey covered all the 30 states and two Union Territories of Chandigarh and Puducherry. The analysis of GATS 2 is based on a total of 74,037 completed interviews, among which 33,772 were with men and 40,265 were with women. The survey provides the present level of all indicators related to tobacco use and its various dimensions at the national and state levels. It also presents changes in all the indicators from GATS 1 to GATS 2.

## 10.1 MAIN FINDINGS OF THE SURVEY

### Tobacco Use

- ❖ 42.4 percent of men, 14.2 percent of women and 28.6 percent (266.8 million) of all adults\* currently use some form of tobacco.
- ❖ Prevalence of tobacco use in rural and urban areas is 32.5 percent and 21.2 percent, respectively.
- ❖ 19.0 percent of men, 2.0 percent of women and 10.7 percent (99.5 million) of all adults currently smoke tobacco.
- ❖ 29.6 percent of men, 12.8 percent of women and 21.4 percent (199.4 million) of all adults currently use smokeless tobacco.
- ❖ 3.4 percent of adults use both forms of tobacco—smoking and smokeless tobacco.
- ❖ Current tobacco use across states/UTs ranges from 9.7 percent in Goa to 64.5 percent in Tripura.
- ❖ *Khaini* - a tobacco, lime mixture - is the most commonly used tobacco product in India used by every ninth adult (11.2%). The next most commonly used tobacco product is *bidi*, smoked by 7.7 percent of adults. In use, *gutka* - a tobacco, lime, areca nut mixture- ranks the third (6.8%) and betel quid with tobacco ranks the fourth (5.8%).
- ❖ Among men *khaini* (17.9%) and *bidi* (14.0%) were the most commonly used tobacco products whereas among women, the three smokeless tobacco products i.e., betel quid with tobacco (4.5%), *khaini* (4.2%) and oral application products (4.3%) such as *mishri*, *gul*, *gudakhu* are almost equally used products.
- ❖ In urban areas, *khaini* (6.8%) and *gutka* (6.3%) are the two most commonly used tobacco products; whereas in rural areas *khaini* (13.5%) and *bidi* (9.3%) are the most prevalent tobacco products.
- ❖ The form of smoked or smokeless tobacco product used most widely, varies across the states/ UTs.
- ❖ 7.5 percent pregnant women use tobacco; almost all of such women consume smokeless variants (7.4%).
- ❖ Overall, there has been a decrease in use of tobacco among all adults. From 34.6 percent in GATS 1, the proportion of adults using tobacco has decreased to

\* Adults wherever used in the text refers to persons aged 15 or above.

28.6 percent in GATS 2. This decrease is statistically significant.

- ❖ There has been a decrease in use of tobacco among youth in the 15-24 year age group. From 18.4 percent in GATS 1, the proportion has declined to 12.4 percent in GATS 2. This decrease too is statistically significant.
- ❖ Between GATS 1 and GATS 2, there has been a decrease in prevalence of tobacco use among all sub-groups – among men, women, adults from rural and urban areas, and in various age groups. All these decreases are statistically significant.
- ❖ Between GATS 1 to GATS 2, the prevalence of each of the tobacco products—cigarette, *bidi*, cigar/ cheroot/ cigarillo, *hukkah*, betel quid with tobacco, *khaini*, *gutka* and tobacco for oral application—has decreased significantly.
- ❖ The average age of initiation of tobacco use has increased between GATS 1 and GATS 2 – rising from 17.9 years to 18.9 years for smoking and from 17.9 years to 18.8 years for use of smokeless tobacco. These increases are also statistically significant, for men and women, as well as in rural areas, but not so in urban areas.
- ❖ About one in five daily tobacco users (18%) resort to tobacco use immediately or within five minutes after waking up.

## Cessation

- ❖ 55.4 percent of current smokers are planning or thinking of quitting smoking and 49.6 percent of current smokeless tobacco users are planning or thinking of quitting smokeless tobacco use.
- ❖ 48.8 percent of current smokers were advised by health care providers to quit smoking. 31.7 percent of current smokeless tobacco users were advised to quit use of smokeless tobacco.
- ❖ The penetration of different methods to support cessation remains low. Most users are attempting to quit, but without any support. A small proportion of smokers (4.1%) even make the wrong choice of switching to smokeless tobacco as an approach to quitting.
- ❖ Most users who are attempting to quit are usually unsuccessful. Almost half of all cigarette smokers (47.4%), *bidi* smokers (48.7%) and smokeless tobacco users (49.5%) who made a quit attempt in the preceding 12 months were unable to sustain the quit status for even a month.
- ❖ As compared to GATS 1, the proportion of smokers who attempted to quit has remained stagnant and the proportion of smokeless tobacco users who attempted to quit has decreased significantly. There is also a significant decrease in the proportion of urban smokers and smokers in the 15-24 year age group who attempted to quit.

## Exposure to second hand smoke

- ❖ Almost every second (49%) adult reported that smoking is allowed inside their house.
- ❖ 38.7 percent of adults were exposed to second hand smoke at home.
- ❖ 30.2 percent of adults who work indoors are exposed to second hand smoke at their workplace.
- ❖ 13.3 percent of adults were exposed to second hand smoke in public transport networks and 7.4 percent of adults were exposed to second hand smoke at restaurants.
- ❖ Between GATS 1 and GATS 2, the overall exposure to second hand smoke at the work place remains unchanged at 26.2 percent of non-smokers. However, a modest but significant decrease is seen in urban areas.



- ❖ There is a major decrease in second hand smoking at home between GATS 1 and GATS 2, with a relative decrease of 27.1 percent among non-smokers. This large decrease is for men as well as women, for rural as well as urban areas, and across all age groups. However even after such a decrease, 35.0 percent of non-smokers are getting exposed to second hand smoke at home. Another area of concern is that 37.7 percent of pregnant women are exposed to second hand smoke at home.
- ❖ There is a significant decrease in exposure to second hand smoke in government buildings, restaurants and public transport, but not in healthcare facilities.

## Economics

- ❖ A daily cigarette smoker in India spends on an average Rs. 1192.45 per month on manufactured cigarettes; a daily *bidi* smoker spends on an average Rs. 284.12 per month. Female smokers spend much lower amounts on a monthly basis on cigarettes as well as *bidis*.
- ❖ Monthly expenditure on cigarettes increases with age. Monthly cigarette expenditure is higher for urban than rural residents; however, adults in rural areas spend more on *bidis* than in urban areas.
- ❖ Smokeless tobacco users spent Rs 42.61 on an average on their last purchase, much higher than smokers. However, it is difficult to estimate the monthly expenditure of smokeless tobacco users since monthly consumption is difficult to estimate.
- ❖ The main sources of purchase are stores, kiosk or *paan* shops and street vendors, with the relative importance of these varying across states. Most tobacco users who are underage (below 18) are able to buy tobacco at these outlets quite easily. This is a major cause for concern.
- ❖ Between GATS 1 and GATS 2, after adjusting for inflation, the monthly expenditure on cigarettes has increased from Rs 668 to Rs 1192 (at current prices) – a relative increase of 78.5 percent. Monthly expenditure on *bidis* has increased from Rs 156 to Rs 284 (at current prices) – a relative increase of 81.8 percent.

## Media and Messaging

- ❖ 19.2 percent adults noticed advertisements promoting various kinds of smoking tobacco, while 18.3 percent adults noticed advertisements of smokeless tobacco.
- ❖ 66.9 percent adults noticed anti-smoking tobacco information on television and 58.4 percent adults noticed anti-smokeless tobacco information on television in 30 days preceding the interview.
- ❖ Large visual warnings on tobacco packages had considerable impact. 61.9 percent cigarette smokers, 53.8 percent *bidi* smokers, and 46.2 percent smokeless tobacco users thought about quitting because of warnings on tobacco product packs. The success of this strategy is based on users first noticing the warning on the pack, then that sight stimulating their thought. Of the two, greater constraint lay in users noticing the warning at all. Among those who noticed the warnings, including in most sub-groups, over 85 percent thought of quitting.
- ❖ Between GATS 1 and GATS 2, there has been a significant increase in those who noticed health warnings on cigarette/*bidi*/smokeless tobacco packages, and those who thought of quitting as a consequence. This change was seen for all three products: cigarettes (relative change 62.9 percent); *bidis* (relative change 83.6 percent) and smokeless tobacco (relative change 36.7 percent)
- ❖ Between GATS 1 and GATS 2, exposure to promotional strategies of tobacco, *bidi*



and smokeless tobacco all decreased significantly, and across all sub-groups (based on gender, age, place of residence, current/ former users of tobacco products).

## Knowledge & Perceptions

- ❖ 92.4 percent of adults believed that smoking cause's serious illness and 95.6 percent of adults believed that use of smokeless tobacco causes serious illness.
- ❖ However, as many as 47.9 percent of smokers do *not* perceive their health as having been affected by tobacco (some of them with certainty and some more tentative). As many as 61.8 percent of smokeless tobacco users did not feel that their health had been adversely affected; 43.6 percent of smokeless tobacco users were certain that their health had not been adversely affected.
- ❖ Though there was a high level of knowledge with regard to the harmful effects of tobacco even at the baseline

of GATS 1, there has been a further improvement in the years since. This improvement is statistically significant for the harmful effects of smoking, use of smokeless tobacco and second hand smoking. More importantly, where the levels of knowledge were lower in GATS 1 in terms of product or background characteristic, the improvement has been relatively more, thus narrowing the gaps in knowledge.

## 10.2 PREVALENCE AND CHANGE ACROSS STATES

There are wide variations in prevalence of tobacco use as well as indicators of use and control across various states of the country. The variations are instructive, and are essential to study since almost all action on tobacco control has to take place under the leadership of the state administration and state departments of health.

The pattern of current tobacco prevalence across the states is shown in the table below:

**Table 10.1:** Classification of states/ UTs according to prevalence of tobacco use in any form, smoking and smokeless tobacco, GATS 2 India, 2016-17

Prevalence percent	States/ UTs by prevalence of		
	Tobacco use (in any form)	Smoking	Smokeless tobacco
Less than 5 percent	–	Maharashtra, Goa	Jammu & Kashmir, Himachal Pradesh, Puducherry
5 percent - 10 percent	Goa	Punjab, Chandigarh, Chhattisgarh, Odisha, Bihar, Gujarat, Telangana, Karnataka, Kerala, Puducherry	Punjab, Chandigarh, Haryana, Delhi, Sikkim, Goa, Andhra Pradesh, Kerala
10 percent - 20 percent	Puducherry, Kerala, Punjab, Chandigarh, Himachal Pradesh, Delhi, Telangana, Sikkim	Himachal Pradesh, Uttarakhand, Haryana, Delhi, Rajasthan, Uttar Pradesh, Madhya Pradesh, West Bengal, Jharkhand, Sikkim, Nagaland, Assam, Andhra Pradesh, Tamil Nadu	Uttarakhand, Rajasthan, Gujarat, Karnataka, Tamil Nadu
20 percent - 30 percent	Andhra Pradesh, Tamil Nadu, Karnataka, Haryana, Jammu & Kashmir, Rajasthan, Gujarat, Bihar, Uttarakhand, Maharashtra	Jammu & Kashmir, Arunachal Pradesh, Manipur, Tripura	Uttar Pradesh, Madhya Pradesh, West Bengal, Bihar, Meghalaya, Maharashtra

Prevalence percent	States/ UTs by prevalence of		
	Tobacco use (in any form)	Smoking	Smokeless tobacco
30 percent - 40 percent	West Bengal, Madhya Pradesh, Uttar Pradesh, Jharkhand, Chhattisgarh	Mizoram, Meghalaya	Chhattisgarh, Jharkhand, Arunachal Pradesh, Nagaland, Mizoram
40 percent - 50 percent	Nagaland, Arunachal Pradesh, Odisha, Meghalaya, Assam	–	Odisha, Manipur, Tripura, Assam
50 percent and above	Manipur, Mizoram, Tripura	–	–

**Note:** Of the above states, those states that have shown a significant and major decrease in tobacco use between GATS 1 and GATS 2 (relative change over 20 percent) are shown in green font and those that have shown a significant but more modest decrease in tobacco use (relative change less than 20 percent) are shown in orange font. Those states which experienced an increased tobacco use are shown in red font. The states which did not show any significant change are shown in black font. GATS 1 estimates are not available for *Andhra Pradesh & Telangana* and are shown in *italics*

Just as we can see many patterns in the table above, variations abound not only with many indicators related to prevalence, but also on indicators related to cessation, second hand smoking, impact of media, and knowledge levels. This reflects the impact of different strategies of tobacco control across states. These must be followed up in each state to understand where they are, how they got there and what they can do about it.

### 10.3 RECOMMENDATIONS

There can be no slack in measures against tobacco use. Despite the overall decline, levels of tobacco use remain unacceptably high. While some states have shown major improvements, others have remained at levels similar to GATS 1, and a few have actually worsened. The emerging scenario calls for effective implementation of all evidence based strategies that can come with WHO FCTC and WHOMPPOWER technical package; enforcement of COTPA 2003; and full implementation of the National Tobacco Control Programme (NTCP) to cover all districts and states.

Further, given the variations in prevalence and effectiveness of strategies across states, there is a need for state-specific, evidence-based intervention plans. The evidence presented in

this survey on state-specific variations in forms and patterns of tobacco use across age groups, frequency and sites of exposure to second hand smoke, access to media messages against smoking, and penetration of promotional strategies by industry needs to be factored in while finalizing state level strategies.

Some Specific Recommendations are as follows:

1. Focused attention and support would need to be prioritized to address uneven improvement in tobacco control across states and ensure that relatively under-performing states receive greater support. All states should be directed to implement NTCP in all districts under the National Health Mission.
2. States which have higher prevalence and have shown insufficient reduction in prevalence rates between the two survey rounds should receive greater attention from the center and greater technical support to implement the tobacco control programme more effectively. This is particularly important for the states of the North-East where seven out of the eight states have a prevalence of current tobacco use more than 40%. Of these seven, two states have shown no

significant change and two states have shown a significant increase.

3. Though they have shown significant reductions in prevalence rates, the large populous states contribute a major share of India's tobacco users in absolute numbers. Three states—Uttar Pradesh, West Bengal and Maharashtra—together account for 38 percent of tobacco users in the country. Eight states, including the big three mentioned above, plus Bihar, Madhya Pradesh, Odisha, Rajasthan and Gujarat together account for 67 percent of India's burden. Despite some of these states having relatively better ranks in terms of performance, accelerated intervention is essential to achieve national goals and targets for tobacco control under the National Health Policy 2017 and Sustainable Development Goals (SDGs).
4. Awareness generation regarding harms of exposure to tobacco smoking and smoke-free laws need further strengthening. Reduction of exposure to SHS at the work place needs to be prioritized and main streamed, as no progress has been made on this indicator. This would require much better inter-sectoral coordination and greater involvement of all ministries, departments and private corporations who can promote awareness as a part of workplace wellness. Further, the policy that allows for designated smoking areas in public places like restaurants, hotels and airports needs to be reviewed and where necessary amended suitably to protect nonsmokers who may be workers or visitors to such locations.
5. Media messages that warn against tobacco use, be it in the form of smoking, smokeless or other emerging forms of tobacco, have proven to be effective, and need to be sustained and strengthened. There is scope to tailor messages focusing on *khaini* and *bidi* to make an impact on targeted audiences and simultaneously work towards maximizing outreach.
6. Large, evidence based, pictorial health warnings on all tobacco packs are impactful interventions, as they are noticed by tobacco users and non-users. The large pictorial health warnings need to be continued; images and messages need to be changed periodically to ensure sustained impact. Efforts should be made to make the warning labels more impactful by providing information about diseases caused by tobacco, including cancer, stroke, heart disease, lung disease etc.
7. The high percentage of people who noticed anti-tobacco warnings on TV or radio is very encouraging. Investment in tobacco control media campaigns needs to be enhanced and implementation of the tobacco-free film and television policy needs to be further strengthened and continued. Anti-tobacco health spots and disclaimers also need to be rotated periodically to highlight different diseases caused by tobacco use.
8. The outreach of existing cessation support programmes need to be expanded and strengthened. All tobacco users who are willing to quit should be provided with necessary support interventions. At the same time, efforts to motivate tobacco users to quit should be intensified. Tobacco cessation services should be main streamed in the health care delivery system and integrated with other, related health programs that provide counselling services for health promotion.
9. The existing national Quitline needs to be expanded and m-Cessation services should be developed in different Indian languages to meet the increasing need for cessation services. Availability of both services should be extensively advertised and promoted in all forms of media and mandated boards displayed under COTPA and also be included on

- the tobacco product packages as a part of pictorial health warnings.
10. Although knowledge about the harmful effects of tobacco use is very high, the relatively low level of intention to quit is an area of concern. This calls for use of better communication strategies that seek to induce behavioral change, as nicotine contained in tobacco is highly addictive.
  11. Strict enforcement of laws to reduce access of tobacco products to minors is an urgent necessity. The policy on regulation of point of sale advertisements needs to be reviewed and fully implemented to protect vulnerable youth from exposure to tobacco brands. Other laws like the Juvenile Justice (Care and Protection of Children) Act, 2015, can also be used for more effective enforcement.
  12. There is need for greater emphasis and concerted action on prohibiting production, sale, and distribution (including export) of all forms of packaged and non-packaged smokeless tobacco. India is home to about 199 million smokeless tobacco users, the largest number of smokeless tobacco users globally. Even though some progress has been made, more efforts are needed to curb smokeless tobacco usage. State or even district specific strategies based on identifying forms of smokeless tobacco use would be an essential part of this. Practices like the application of tobacco on gums, are very community and locale specific. State plans that can identify communities at risk and develop supplementary strategies to reach them hold great promise.
  13. The issue of exposure to tobacco industry advertising and promotion through direct as well as indirect (surrogate and brand sharing) strategies needs to be looked into and addressed comprehensively to remove any loopholes or ambiguity in COTPA and its enforcement.
  14. Further, even though the advertisement at point of sale is regulated under COTPA, continued exposure to advertisement of smoking and smokeless tobacco products at the point of sale is a cause of concern. Better implementation of COTPA is recommended and current provisions need to be reviewed and amended.
  15. The high prevalence of tobacco use among students and in the 15-24 year age group remain an area of concern. There is a need to strengthen coordination with institutions of higher education, youth for a and community-based organizations to reach this section of the population more effectively. Tobacco awareness should be part of school/college curriculum. Engaging youth in campaigns and peer-to-peer networks would also discourage tobacco use amongst youth. Innovative strategies need to be adopted to reach out to this group, along with tailor-made messages through social media and other emerging platforms. Tobacco-free educational institutional guidelines need to be adopted and implemented across the country.
  16. Enforcement of sale to and by minors and sale around 100 yards of educational institutions are major challenges. This section of the law needs to be enforced by sensitizing enforcement officials, dedicating funds, close coordination between education, home, health and administration and regular monitoring by district level coordination committees. Mass media campaigns to generate awareness amongst school/college fraternity are also required through posters, IEC material, workshops for students and teachers. This can be achieved by engaging NGOs and CBOs actively.
  17. A number of interventions are required to enhance the contribution of health care facilities to tobacco control. One target is to reduce exposure to SHS. Another is

to screen for tobacco use and link users to counselling and support mechanisms or the Quitline/m-Cessation support. A third target is to sensitize health care providers to invest more time and effort in anti-tobacco messaging and counselling of their clients. All health care providers, in government as well as private sectors, must be encouraged to record use of tobacco products for all patients and offer appropriate advice for quitting tobacco use. Specific awareness materials may be developed and training imparted to encourage health care providers to record tobacco use status and provide brief cessation advice.

18. There is a need to strengthen messages against smoking at home. Though this indicator has shown improvement, exposure to second hand smoke especially for children is much higher at home than in any other place. Innovative campaigns like 'Smoke-free homes' need to be designed and implemented through children and adolescents.
19. There is a need to strengthen messages to pregnant women on tobacco use,

especially smokeless tobacco use. In the states showing high incidence of such use, such messages and monitoring of tobacco use should be part of ante-natal care as well. This requires linkages with the reproductive and child health programme and sensitization of medical fraternity. There is also a need to strengthen messages to families to protect pregnant women from second hand smoke.

20. There is a need to make special efforts to reach to the poorest, the least educated, and the elderly, since they are the ones least prepared to bear consequences of the addiction. Therefore, tobacco taxation policies need to be reviewed regularly and taxes increased periodically to decrease the afford ability of tobacco products in order to protect vulnerable population groups.
21. Civil society and private sector engagement is crucial to reach out to various stakeholders, especially in sensitizing, transfer of knowledge, training, mass media campaigns, advocacy and building partnerships.

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# APPENDICES

# APPENDIX A GATS 2 DATA TABLES

**Appendix Table A-4.1:** Percentage of adults aged 15 or above by detailed tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current tobacco user				Current non-user				Never users	
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users		Former occasional users
India	28.6	24.9	3.7	1.0	2.7	71.4	1.9	69.5	1.2	68.4
Jammu & Kashmir	23.7	21.1	2.6	0.7	1.9	76.3	1.8	74.5	0.8	73.7
Himachal Pradesh	16.1	13.0	3.1	0.8	2.3	83.9	1.6	82.3	0.9	81.4
Punjab	13.4	11.2	2.3	0.4	1.8	86.6	0.4	86.2	0.7	85.6
Chandigarh	13.7	10.9	2.8	0.7	2.1	86.3	0.9	85.4	0.5	84.8
Uttarakhand	26.5	22.7	3.9	0.9	3.0	73.5	2.2	71.3	1.4	69.9
Haryana	23.6	20.9	2.7	0.9	1.9	76.4	1.1	75.3	0.2	75.1
Delhi	17.8	13.4	4.4	1.0	3.3	82.2	1.9	80.4	1.8	78.5
Rajasthan	24.7	21.1	3.6	0.9	2.7	75.3	2.4	72.9	1.3	71.6
Uttar Pradesh	35.5	30.4	5.1	1.3	3.8	64.5	2.2	62.2	1.9	60.3
Chhattisgarh	39.1	36.6	2.5	0.3	2.2	60.9	1.2	59.7	1.1	58.5
Madhya Pradesh	34.2	30.2	4.0	0.9	3.1	65.8	2.1	63.6	0.9	62.7
West Bengal	33.5	30.2	3.4	0.9	2.5	66.5	1.4	65.1	0.7	64.4
Jharkhand	38.9	33.0	5.8	1.1	4.8	61.1	0.9	60.2	1.0	59.3

State/UT	Current tobacco user						Current non-user				Never users
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users	Former occasional users		
Odisha	45.6	40.3	5.3	1.9	3.5	54.4	2.3	52.1	1.3	50.7	
Bihar	25.9	24.2	1.7	0.4	1.3	74.1	0.8	73.3	0.6	72.7	
Sikkim	17.9	13.9	4.0	1.3	2.7	82.1	1.3	80.8	0.4	80.4	
Arunachal Pradesh	45.5	36.7	8.8	2.7	6.1	54.5	1.4	53.0	2.5	50.5	
Nagaland	43.3	28.9	14.4	3.3	11.1	56.7	2.3	54.4	1.7	52.8	
Manipur	55.1	40.7	14.5	1.8	12.7	44.9	2.7	42.2	2.0	40.2	
Mizoram	58.7	52.7	6.0	2.4	3.6	41.3	2.2	39.2	1.1	38.1	
Tripura	64.5	48.5	16.0	6.1	9.9	35.5	0.9	34.6	0.4	34.2	
Meghalaya	47.0	38.4	8.6	2.8	5.8	53.0	2.1	50.9	1.5	49.4	
Assam	48.2	41.6	6.6	1.5	5.1	51.8	3.4	48.4	2.1	46.3	
Gujarat	25.1	22.6	2.5	0.5	2.0	74.9	1.4	73.5	0.7	72.8	
Maharashtra	26.6	23.6	3.0	1.0	2.0	73.4	1.4	72.0	1.2	70.8	
Goa	9.7	5.4	4.3	2.0	2.3	90.3	0.6	89.7	1.2	88.5	
Andhra Pradesh	20.0	17.2	2.8	0.4	2.3	80.0	2.5	77.6	1.2	76.4	
Telangana	17.8	15.5	2.4	1.0	1.4	82.2	1.2	81.0	0.9	80.0	
Karnataka	22.8	19.6	3.2	1.4	1.8	77.2	2.3	74.9	0.3	74.6	
Kerala	12.7	9.3	3.4	1.0	2.4	87.3	6.0	81.3	3.8	77.5	
Tamil Nadu	20.0	16.7	3.3	0.5	2.8	80.0	1.5	78.5	0.5	77.9	
Puducherry	11.2	8.9	2.3	1.3	1.0	88.8	2.2	86.7	0.8	85.9	

**Appendix Table A-4.2:** Percentage of men aged 15 or above by detailed tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current tobacco user						Current non-user				Never users
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users	Former occasional users		
India	42.4	36.9	5.5	1.4	4.1	57.6	2.6	55.0	1.7	53.2	
Jammu & Kashmir	39.7	35.7	4.0	0.9	3.0	60.3	2.5	57.8	0.6	57.2	
Himachal Pradesh	30.4	24.3	6.1	1.6	4.5	69.6	3.2	66.4	1.7	64.7	
Punjab	25.3	20.9	4.3	0.8	3.5	74.7	0.7	74.1	1.3	72.8	
Chandigarh	23.3	19.1	4.3	1.1	3.2	76.7	1.7	75.0	1.0	74.0	
Uttarakhand	43.6	38.0	5.6	0.9	4.7	56.4	3.3	53.1	2.0	51.1	
Haryana	39.1	35.3	3.9	1.1	2.7	60.9	2.0	58.9	0.3	58.6	
Delhi	28.9	21.6	7.3	1.7	5.6	71.1	2.9	68.1	2.6	65.6	
Rajasthan	39.6	34.5	5.1	1.5	3.7	60.4	3.2	57.2	2.2	55.0	
Uttar Pradesh	52.1	45.3	6.8	1.6	5.2	47.9	2.7	45.1	2.2	42.9	
Chhattisgarh	53.7	49.6	4.1	0.4	3.7	46.3	1.3	45.0	1.8	43.2	
Madhya Pradesh	50.2	43.5	6.7	1.4	5.3	49.8	3.0	46.8	1.4	45.4	
West Bengal	48.5	43.2	5.3	1.3	4.0	51.5	1.9	49.6	1.1	48.5	
Jharkhand	59.7	51.4	8.2	1.6	6.7	40.3	1.1	39.2	0.9	38.3	
Odisha	57.6	49.3	8.3	2.5	5.8	42.4	3.0	39.4	1.9	37.6	
Bihar	43.4	40.6	2.8	0.5	2.4	56.6	1.1	55.5	1.0	54.5	

State/UT	Current tobacco user						Current non-user				Never users
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users	Former occasional users		
Sikkim	26.4	20.9	5.5	1.9	3.6	73.6	1.5	72.1	0.3	71.8	
Arunachal Pradesh	61.1	51.6	9.6	2.4	7.1	38.9	2.0	36.8	4.1	32.7	
Nagaland	54.1	32.2	21.9	4.8	17.1	45.9	3.7	42.2	1.0	41.2	
Manipur	62.5	42.9	19.6	2.1	17.5	37.5	3.4	34.2	2.6	31.6	
Mizoram	64.9	58.9	6.0	2.6	3.4	35.1	2.0	33.2	0.6	32.6	
Tripura	67.5	48.9	18.6	8.3	10.3	32.5	1.4	31.1	0.6	30.5	
Meghalaya	59.8	54.9	4.9	2.0	2.9	40.2	1.9	38.3	2.3	36.0	
Assam	62.9	53.7	9.3	1.9	7.4	37.1	4.7	32.3	3.7	28.6	
Gujarat	38.7	34.6	4.0	0.5	3.5	61.3	1.8	59.6	1.1	58.5	
Maharashtra	35.5	31.3	4.2	1.5	2.7	64.5	1.8	62.7	2.1	60.6	
Goa	15.3	8.3	6.9	3.0	4.0	84.7	0.6	84.1	2.2	81.9	
Andhra Pradesh	30.0	26.0	4.0	0.7	3.3	70.0	4.1	65.9	1.8	64.1	
Telangana	25.9	22.1	3.8	1.7	2.1	74.1	1.9	72.1	1.7	70.4	
Karnataka	35.2	29.9	5.2	2.0	3.2	64.8	3.6	61.2	0.6	60.7	
Kerala	22.9	16.1	6.8	2.0	4.9	77.1	10.9	66.2	7.2	59.0	
Tamil Nadu	31.0	26.2	4.8	1.0	3.8	69.0	2.5	66.5	0.8	65.7	
Puducherry	17.7	13.3	4.3	2.5	1.8	82.3	3.3	79.0	1.3	77.6	



**Appendix Table A-4.3:** Percentage of women aged 15 or above by detailed tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current tobacco user				Current non-user				Never users	
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users		Former occasional users
India	14.2	12.4	1.8	0.5	1.3	85.8	1.1	84.7	0.6	84.2
Jammu & Kashmir	6.2	5.1	1.1	0.4	0.7	93.8	1.1	92.7	0.9	91.8
Himachal Pradesh	1.7	1.5	0.2	0.1	0.1	98.3	0.0	98.3	0.1	98.2
Punjab	0.5	0.4	0.0	0.0	0.0	99.5	0.0	99.5	0.0	99.5
Chandigarh	1.7	0.8	0.9	0.1	0.7	98.3	0.0	98.3	0.0	98.3
Uttarakhand	9.3	7.2	2.1	0.9	1.3	90.7	1.0	89.7	0.9	88.8
Haryana	6.3	4.9	1.5	0.5	0.9	93.7	0.1	93.5	0.2	93.4
Delhi	4.8	3.9	0.9	0.2	0.7	95.2	0.6	94.6	0.9	93.7
Rajasthan	9.0	7.1	2.0	0.3	1.6	91.0	1.5	89.4	0.4	89.0
Uttar Pradesh	17.7	14.4	3.3	1.0	2.3	82.3	1.7	80.6	1.6	79.0
Chhattisgarh	24.6	23.7	1.0	0.3	0.7	75.4	1.1	74.2	0.5	73.8
Madhya Pradesh	17.3	16.1	1.2	0.3	0.8	82.7	1.2	81.5	0.4	81.1
West Bengal	17.9	16.5	1.4	0.4	0.9	82.1	0.9	81.3	0.3	81.0
Jharkhand	17.0	13.6	3.3	0.6	2.8	83.0	0.8	82.3	1.0	81.3
Odisha	33.6	31.3	2.3	1.2	1.1	66.4	1.6	64.7	0.8	64.0
Bihar	6.9	6.4	0.5	0.2	0.2	93.1	0.5	92.6	0.2	92.4

State/UT	Current tobacco user						Current non-user				Never users
	Current tobacco users	Daily users	Occasional users	Occasional users, former daily	Occasional users, never daily	Current non-users	Former daily users	Never daily users	Former occasional users		
Sikkim	8.4	6.0	2.4	0.6	1.7	91.6	0.9	90.7	0.5	90.2	
Arunachal Pradesh	28.7	20.8	8.0	3.0	4.9	71.3	0.8	70.5	0.8	69.7	
Nagaland	31.7	25.3	6.3	1.6	4.7	68.3	0.8	67.5	2.4	65.1	
Manipur	47.8	38.5	9.4	1.5	7.9	52.2	2.0	50.2	1.4	48.8	
Mizoram	52.4	46.4	6.0	2.2	3.7	47.6	2.4	45.3	1.6	43.7	
Tripura	61.4	48.2	13.3	3.8	9.5	38.6	0.3	38.2	0.3	38.0	
Meghalaya	34.2	21.9	12.3	3.6	8.7	65.8	2.3	63.5	0.7	62.8	
Assam	32.9	29.0	3.9	1.2	2.7	67.1	2.1	65.0	0.4	64.6	
Gujarat	10.4	9.7	0.7	0.4	0.3	89.6	1.0	88.6	0.4	88.2	
Maharashtra	17.0	15.3	1.7	0.5	1.3	83.0	1.0	82.0	0.2	81.7	
Goa	4.0	2.5	1.6	1.0	0.6	96.0	0.6	95.4	0.2	95.2	
Andhra Pradesh	10.1	8.6	1.5	0.1	1.4	89.9	0.9	89.0	0.5	88.5	
Telangana	9.8	8.9	0.9	0.2	0.7	90.2	0.5	89.7	0.1	89.6	
Karnataka	10.3	9.2	1.1	0.8	0.3	89.7	0.9	88.8	0.0	88.8	
Kerala	3.6	3.1	0.4	0.2	0.2	96.4	1.7	94.8	0.7	94.1	
Tamil Nadu	9.3	7.5	1.9	0.1	1.8	90.7	0.5	90.2	0.3	89.9	
Puducherry	5.1	4.8	0.3	0.2	0.1	94.9	1.0	93.9	0.3	93.6	

**Appendix Table A-4.4:** Percent distribution of current male tobacco users aged 15 or above by tobacco use pattern according to states/UTs, GATS 2 India, 2016-17

State/UT	Current tobacco user	Type of current tobacco use			Non-user	Total
		Smoked only	Smokeless only	Both smoked and smokeless		
India	42.4	12.8	23.4	6.3	57.6	100
Jammu & Kashmir	39.7	32.9	4.5	2.3	60.3	100
Himachal Pradesh	30.4	24.3	3.7	2.4	69.6	100
Punjab	25.3	10.3	11.6	3.3	74.7	100
Chandigarh	23.3	13.0	7.1	3.2	76.7	100
Uttarakhand	43.6	22.4	13.8	7.4	56.4	100
Haryana	39.1	29.1	6.1	4.0	60.9	100
Delhi	28.9	15.3	9.5	4.2	71.1	100
Rajasthan	39.6	17.6	17.4	4.6	60.4	100
Uttar Pradesh	52.1	9.6	29.0	13.6	47.9	100
Chhattisgarh	53.7	6.1	42.9	4.8	46.3	100
Madhya Pradesh	50.2	11.5	31.2	7.5	49.8	100
West Bengal	48.5	25.7	16.8	6.0	51.5	100
Jharkhand	59.7	5.6	39.4	14.7	40.3	100
Odisha	57.6	5.4	43.6	8.5	42.4	100
Bihar	43.4	1.6	36.8	5.1	56.6	100
Sikkim	26.4	12.5	9.0	4.8	73.6	100
Arunachal Pradesh	61.1	11.0	22.4	27.7	38.9	100
Nagaland	54.1	8.2	29.1	16.8	45.9	100
Manipur	62.5	12.2	26.6	23.6	37.5	100
Mizoram	64.9	43.5	10.7	10.6	35.1	100
Tripura	67.5	26.7	23.1	17.8	32.5	100
Meghalaya	59.8	48.2	6.1	5.5	40.2	100
Assam	62.9	12.4	37.6	12.9	37.1	100
Gujarat	38.7	11.0	24.5	3.2	61.3	100
Maharashtra	35.5	3.8	29.5	2.2	64.5	100
Goa	15.3	6.0	7.3	1.9	84.7	100
Andhra Pradesh	30.0	22.4	6.0	1.6	70.0	100
Telangana	25.9	14.7	10.6	0.6	74.1	100
Karnataka	35.2	13.0	18.4	3.8	64.8	100
Kerala	22.9	15.6	3.4	4.0	77.1	100
Tamil Nadu	31.0	19.1	9.9	2.0	69.0	100
Puducherry	17.7	13.1	3.0	1.6	82.3	100

**Appendix Table A-4.5:** Percent distribution of current female tobacco users aged 15 or above by tobacco use pattern according to states/UTs, GATS 2 India, 2016-17

State/UT	Current tobacco user	Type of current tobacco use			Non-user	Total
		Smoked only	Smokeless only	Both smoked and smokeless		
India	14.2	1.5	12.3	0.5	85.8	100
Jammu & Kashmir	6.2	4.7	1.1	0.4	93.8	100
Himachal Pradesh	1.7	1.6	0.1	0.0	98.3	100
Punjab	0.5	0.2	0.1	0.2	99.5	100
Chandigarh	1.7	0.9	0.8	0.0	98.3	100
Uttarakhand	9.3	5.9	3.0	0.4	90.7	100
Haryana	6.3	4.2	1.6	0.6	93.7	100
Delhi	4.8	1.6	3.0	0.2	95.2	100
Rajasthan	9.0	3.2	5.3	0.6	91.0	100
Uttar Pradesh	17.7	2.5	14.5	0.7	82.3	100
Chhattisgarh	24.6	0.1	24.5	0.0	75.4	100
Madhya Pradesh	17.3	0.5	16.4	0.3	82.7	100
West Bengal	17.9	0.7	17.0	0.3	82.1	100
Jharkhand	17.0	1.3	15.4	0.3	83.0	100
Odisha	33.6	0.1	33.6	0.0	66.4	100
Bihar	6.9	3.3	3.5	0.1	93.1	100
Sikkim	8.4	3.3	4.7	0.3	91.6	100
Arunachal Pradesh	28.7	1.0	23.4	4.4	71.3	100
Nagaland	31.7	0.1	31.1	0.4	68.3	100
Manipur	47.8	2.6	41.8	3.4	52.2	100
Mizoram	52.4	6.4	38.1	7.9	47.6	100
Tripura	61.4	4.9	51.2	5.4	38.6	100
Meghalaya	34.2	5.1	24.7	4.3	65.8	100
Assam	32.9	0.3	32.1	0.5	67.1	100
Gujarat	10.4	0.4	9.8	0.3	89.6	100
Maharashtra	17.0	0.5	15.6	1.0	83.0	100
Goa	4.0	0.4	3.6	0.0	96.0	100
Andhra Pradesh	10.1	3.5	5.5	1.1	89.9	100
Telangana	9.8	0.8	8.4	0.5	90.2	100
Karnataka	10.3	0.0	9.6	0.7	89.7	100
Kerala	3.6	0.0	3.4	0.2	96.4	100
Tamil Nadu	9.3	0.0	9.2	0.1	90.7	100
Puducherry	5.1	0.1	4.9	0.0	94.9	100

**Appendix Table A-4.6:** Percentage of adults aged 15 or above by detailed smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current Smokers	Current smokers						Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker			
India	10.7	8.6	2.1	0.5	1.6	89.3	1.8	87.5	1.3	86.1		
Jammu & Kashmir	20.8	18.5	2.3	0.5	1.8	79.2	1.8	77.4	0.7	76.7		
Himachal Pradesh	14.2	11.4	2.8	0.8	2.0	85.8	1.6	84.3	1.0	83.2		
Punjab	7.3	5.7	1.6	0.2	1.4	92.7	0.5	92.2	0.5	91.8		
Chandigarh	9.4	7.2	2.1	0.3	1.8	90.6	1.3	89.3	0.3	89.0		
Uttarakhand	18.1	15.5	2.6	0.9	1.7	81.9	2.5	79.4	1.3	78.1		
Haryana	19.7	17.7	2.0	0.6	1.4	80.3	1.1	79.2	0.3	79.0		
Delhi	11.3	7.8	3.4	0.8	2.7	88.7	1.8	87.0	1.8	85.2		
Rajasthan	13.2	11.1	2.1	0.6	1.5	86.8	2.6	84.2	1.3	82.9		
Uttar Pradesh	13.5	10.1	3.5	0.6	2.8	86.5	2.4	84.0	2.7	81.3		
Chhattisgarh	5.5	4.6	0.9	0.1	0.8	94.5	1.4	93.1	1.3	91.7		
Madhya Pradesh	10.2	8.4	1.8	0.3	1.5	89.8	1.5	88.3	1.4	86.8		
West Bengal	16.7	14.6	2.1	0.3	1.7	83.3	1.4	81.9	0.6	81.3		
Jharkhand	11.1	5.6	5.6	1.0	4.5	88.9	0.8	88.1	2.2	85.9		
Odisha	7.0	4.7	2.3	0.4	2.0	93.0	2.8	90.2	2.7	87.5		
Bihar	5.1	4.2	0.9	0.2	0.6	94.9	2.2	92.7	0.9	91.9		
Sikkim	10.9	7.9	3.0	0.8	2.2	89.1	0.7	88.4	0.4	88.0		

State/UT	Current Smokers	Current smokers						Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker			
Arunachal Pradesh	22.7	15.2	7.4	2.4	5.0	77.3	1.8	75.5	3.2	72.3		
Nagaland	13.2	8.0	5.2	1.9	3.4	86.8	2.3	84.5	0.7	83.8		
Manipur	20.9	14.0	6.9	1.0	5.9	79.1	3.0	76.1	3.2	72.9		
Mizoram	34.4	30.4	4.0	1.3	2.7	65.6	2.8	62.8	1.3	61.5		
Tripura	27.7	20.6	7.1	2.9	4.2	72.3	1.1	71.2	1.1	70.1		
Meghalaya	31.6	26.6	5.0	1.4	3.6	68.4	1.2	67.1	1.1	66.0		
Assam	13.3	9.7	3.6	0.9	2.6	86.7	3.7	83.1	4.2	78.9		
Gujarat	7.7	6.8	0.9	0.1	0.8	92.3	0.8	91.5	0.4	91.1		
Maharashtra	3.8	2.9	0.9	0.3	0.6	96.2	0.7	95.4	0.6	94.9		
Goa	4.2	1.6	2.6	1.0	1.6	95.8	0.2	95.6	1.1	94.4		
Andhra Pradesh	14.2	12.9	1.3	0.4	0.9	85.8	2.2	83.6	1.0	82.5		
Telangana	8.3	7.1	1.2	0.5	0.7	91.7	1.2	90.5	0.8	89.8		
Karnataka	8.8	7.2	1.6	0.8	0.8	91.2	1.7	89.5	0.4	89.1		
Kerala	9.3	6.5	2.8	1.1	1.7	90.7	5.1	85.6	2.8	82.8		
Tamil Nadu	10.5	9.1	1.4	0.5	0.9	89.5	1.4	88.1	0.5	87.6		
Puducherry	7.2	5.6	1.6	0.9	0.7	92.8	1.6	91.2	0.5	90.7		

**Appendix Table A-4.7:** Percentage of men aged 15 or above by detailed smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current Smokers	Current smokers				Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker	
India	19.0	15.2	3.8	0.9	2.9	81.0	3.2	77.7	2.4	75.3
Jammu & Kashmir	35.2	31.9	3.3	0.5	2.8	64.8	2.7	62.2	0.5	61.6
Himachal Pradesh	26.7	21.2	5.5	1.6	3.9	73.3	3.1	70.2	2.0	68.3
Punjab	13.6	10.6	3.0	0.4	2.6	86.4	0.9	85.5	0.9	84.6
Chandigarh	16.2	12.9	3.3	0.5	2.8	83.8	2.4	81.4	0.5	81.0
Uttarakhand	29.8	25.7	4.1	0.9	3.2	70.2	3.9	66.3	1.9	64.4
Haryana	33.1	30.0	3.1	0.8	2.3	66.9	2.0	65.0	0.4	64.6
Delhi	19.4	13.1	6.3	1.4	4.9	80.6	3.1	77.5	2.8	74.7
Rajasthan	22.2	18.7	3.5	1.0	2.5	77.8	4.3	73.5	2.3	71.2
Uttar Pradesh	23.1	17.0	6.1	1.2	4.9	76.9	4.1	72.8	4.3	68.5
Chhattisgarh	10.8	9.1	1.8	0.1	1.7	89.2	2.4	86.7	2.5	84.2
Madhya Pradesh	19.0	15.6	3.4	0.6	2.8	81.0	3.0	78.0	2.8	75.3
West Bengal	31.7	27.8	3.9	0.6	3.3	68.3	2.8	65.5	1.1	64.4
Jharkhand	20.3	9.8	10.4	1.7	8.7	79.7	1.4	78.4	4.3	74.1
Odisha	13.9	9.3	4.6	0.7	3.9	86.1	5.3	80.8	5.4	75.4
Bihar	6.6	5.3	1.3	0.3	1.0	93.4	3.5	89.8	1.5	88.4
Sikkim	17.4	13.0	4.4	1.1	3.3	82.6	1.1	81.5	0.4	81.1



State/UT	Current Smokers	Current smokers						Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker			
Arunachal Pradesh	38.7	26.6	12.1	3.5	8.6	61.3	3.1	58.1	5.9	52.3		
Nagaland	25.0	15.0	10.0	3.5	6.4	75.0	4.5	70.5	1.3	69.2		
Manipur	35.9	23.2	12.6	1.7	10.9	64.1	4.4	59.8	4.4	55.4		
Mizoram	54.1	49.8	4.3	1.7	2.6	45.9	3.6	42.3	1.3	40.9		
Tripura	44.4	32.3	12.2	4.7	7.5	55.6	2.2	53.4	2.1	51.3		
Meghalaya	53.7	49.1	4.6	2.2	2.4	46.3	2.2	44.1	1.9	42.2		
Assam	25.3	18.3	6.9	1.9	5.1	74.7	6.3	68.4	8.2	60.2		
Gujarat	14.2	12.6	1.6	0.1	1.5	85.8	1.3	84.5	0.9	83.7		
Maharashtra	6.0	4.4	1.6	0.5	1.2	94.0	1.3	92.6	1.0	91.6		
Goa	7.9	2.9	5.0	1.9	3.1	92.1	0.4	91.6	2.1	89.5		
Andhra Pradesh	24.0	21.4	2.6	0.9	1.7	76.0	3.6	72.4	1.8	70.6		
Telangana	15.3	13.0	2.3	1.0	1.4	84.7	2.1	82.6	1.4	81.2		
Karnataka	16.8	13.6	3.2	1.6	1.6	83.2	3.1	80.1	0.8	79.3		
Kerala	19.6	13.6	6.0	2.3	3.7	80.4	10.7	69.8	5.9	63.9		
Tamil Nadu	21.1	18.3	2.8	1.0	1.8	78.9	2.8	76.1	1.1	75.0		
Puducherry	14.7	11.3	3.4	1.9	1.5	85.3	3.2	82.1	1.1	81.0		

**Appendix Table A-4.8:** Percentage of women aged 15 or above by detailed smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current Smokers	Current smokers				Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker	
India	2.0	1.7	0.3	0.1	0.2	98.0	0.4	97.7	0.2	97.4
Jammu & Kashmir	5.1	3.9	1.1	0.4	0.7	94.9	0.8	94.1	0.9	93.2
Himachal Pradesh	1.6	1.5	0.1	0.1	0.0	98.4	0.0	98.4	0.1	98.3
Punjab	0.4	0.3	0.1	0.1	0.0	99.6	0.0	99.6	0.0	99.6
Chandigarh	0.9	0.2	0.7	0.0	0.6	99.1	0.0	99.1	0.0	99.1
Uttarakhand	6.3	5.2	1.1	0.8	0.2	93.7	1.1	92.6	0.8	91.9
Haryana	4.8	4.0	0.8	0.4	0.4	95.2	0.1	95.1	0.1	95.0
Delhi	1.8	1.6	0.1	0.1	0.0	98.2	0.2	98.1	0.6	97.5
Rajasthan	3.7	3.1	0.7	0.1	0.5	96.3	0.8	95.4	0.2	95.2
Uttar Pradesh	3.2	2.6	0.7	0.0	0.7	96.8	0.7	96.1	0.9	95.2
Chhattisgarh	0.1	0.1	0.1	0.1	0.0	99.9	0.5	99.4	0.2	99.3
Madhya Pradesh	0.8	0.7	0.1	0.0	0.1	99.2	0.0	99.1	0.0	99.1
West Bengal	0.9	0.8	0.1	0.0	0.1	99.1	0.0	99.1	0.0	99.1
Jharkhand	1.6	1.1	0.4	0.3	0.1	98.4	0.1	98.3	0.0	98.3
Odisha	0.1	0.1	0.0	0.0	0.0	99.9	0.3	99.6	0.1	99.5
Bihar	3.4	3.0	0.4	0.2	0.2	96.6	0.7	95.9	0.2	95.7

State/UT	Current Smokers	Current smokers						Current non-smoker				Never smoker
		Daily Smokers	Occasional Smokers	Occasional Smoker former Daily	Occasional Smoker never Daily	Current non Smoker	Former daily smoker	Never daily Smoker	Former occasional Smoker			
Sikkim	3.6	2.2	1.5	0.6	0.9	96.4	0.1	96.2	0.4	95.8		
Arunachal Pradesh	5.4	3.1	2.3	1.1	1.2	94.6	0.4	94.3	0.4	93.9		
Nagaland	0.5	0.4	0.1	0.0	0.1	99.5	0.0	99.5	0.0	99.5		
Manipur	6.0	4.8	1.2	0.4	0.8	94.0	1.7	92.3	1.9	90.4		
Mizoram	14.3	10.7	3.6	0.9	2.7	85.7	1.9	83.8	1.4	82.5		
Tripura	10.3	8.4	1.9	1.0	0.8	89.7	0.0	89.7	0.1	89.6		
Meghalaya	9.5	3.9	5.5	0.7	4.9	90.5	0.3	90.3	0.3	89.9		
Assam	0.8	0.7	0.1	0.0	0.1	99.2	0.9	98.3	0.0	98.2		
Gujarat	0.7	0.6	0.1	0.0	0.1	99.3	0.3	99.0	0.0	99.0		
Maharashtra	1.4	1.3	0.2	0.1	0.1	98.6	0.1	98.4	0.1	98.3		
Goa	0.4	0.3	0.1	0.1	0.0	99.6	0.1	99.5	0.1	99.4		
Andhra Pradesh	4.6	4.5	0.1	0.0	0.1	95.4	0.8	94.5	0.3	94.3		
Telangana	1.4	1.3	0.1	0.1	0.0	98.6	0.2	98.4	0.1	98.3		
Karnataka	0.7	0.7	0.0	0.0	0.0	99.3	0.2	99.1	0.0	99.1		
Kerala	0.2	0.2	0.0	0.0	0.0	99.8	0.1	99.7	0.0	99.7		
Tamil Nadu	0.1	0.1	0.0	0.0	0.0	99.9	0.0	99.9	0.0	99.9		
Puducherry	0.1	0.1	0.0	0.0	0.0	99.9	0.0	99.9	0.0	99.8		

**Appendix Table A-4.9:** Percentage of adults aged 15 or above who are current smokers by various smoked tobacco products according to gender and background characteristics, GATS 2 India, 2016-17

Background characteristic	Any smoked tobacco product	Any cigarette <sup>1</sup>	Bidi	Cigars, cheroots or cigarillos	Hukkah	Other smoked tobacco
<b>Overall</b>	10.7	4.0	7.7	0.3	0.7	0.1
<b>Men</b>	19.0	7.3	14.0	0.6	1.1	0.2
<b>Age</b>						
15-24	6.3	4.0	3.1	0.2	0.2	0.1
25-44	20.2	9.0	14.4	0.6	0.9	0.2
45-64	29.5	8.7	23.5	0.7	2.2	0.3
65+	26.0	5.9	21.5	1.0	2.3	0.4
<b>Residence</b>						
Urban	15.4	8.4	8.8	0.4	0.4	0.1
Rural	21.0	6.8	16.8	0.6	1.5	0.2
<b>Education level</b>						
No formal schooling	34.9	8.6	29.4	0.8	2.6	0.5
Less than primary	30.5	9.7	25.3	0.8	1.0	0.1
Primary but less than secondary	19.5	7.5	14.8	0.6	1.0	0.2
Secondary and above	9.7	6.2	4.7	0.4	0.6	0.1
<b>Occupation</b>						
Government and non-government employee	14.5	8.4	8.2	0.4	0.4	0.1
Self employed	24.2	8.6	18.6	0.7	1.3	0.2
Student	2.3	2.0	0.3	0.0	0.1	0.0
Home maker	19.5	6.8	14.5	0.9	2.0	0.1
Retired or unemployed	20.1	5.4	15.6	0.9	2.4	0.2
<b>Women</b>	2.0	0.6	1.2	0.1	0.3	0.1
<b>Age</b>						
15-24	0.2	0.0	0.1	0.0	0.0	0.0
25-44	1.3	0.5	0.7	0.0	0.1	0.1
45-64	3.7	1.1	2.3	0.1	0.5	0.0
65+	5.7	1.4	3.4	0.1	1.2	0.2
<b>Residence</b>						
Urban	0.7	0.3	0.3	0.0	0.1	0.0
Rural	2.6	0.8	1.6	0.1	0.4	0.1
<b>Educational level</b>						
No formal schooling	4.4	1.2	2.7	0.1	0.7	0.1
Less than primary	1.5	0.6	0.8	0.0	0.2	0.0
Primary but less than secondary	0.6	0.2	0.3	0.0	0.1	0.2
Secondary and above	0.2	0.1	0.1	0.0	0.0	0.0
<b>Occupation</b>						
Government and non-government employee	0.8	0.6	0.1	0.0	0.0	0.0
Self employed	2.9	1.2	1.4	0.1	0.2	0.2
Student	0.0	0.0	0.0	0.0	0.0	0.0
Home maker	1.9	0.5	1.2	0.0	0.3	0.0
Retired or unemployed	3.9	0.7	2.5	0.1	1.0	0.3

**Note:** 1 Includes manufactured cigarettes and tobacco rolled in paper or leaf

**Appendix Table A-4.10:** Percentage of current male smokers aged 15 or above by various smoked tobacco products according to states/UTs, GATS 2 India, 2016-17

State/UT	Any smoked tobacco product	Any cigarette <sup>1</sup>	Bidi	Cigars, cheroots or cigarillos	Hukkah	Other smoked tobacco
<b>India</b>	19.0	7.3	14.0	0.6	1.1	0.2
Jammu & Kashmir	35.2	19.5	11.7	0.4	6.7	0.1
Himachal Pradesh	26.7	5.5	23.8	0.3	0.6	0.2
Punjab	13.6	3.2	11.0	0.1	0.1	0.0
Chandigarh	16.2	6.1	10.9	0.0	0.1	0.0
Uttarakhand	29.8	9.6	25.9	0.0	2.1	0.6
Haryana	33.1	4.8	26.6	0.3	12.0	0.3
Delhi	19.4	8.9	13.9	0.0	0.5	0.0
Rajasthan	22.2	4.8	19.7	3.4	4.8	0.3
Uttar Pradesh	23.1	8.8	19.5	0.5	2.0	0.1
Chhattisgarh	10.8	3.4	8.1	0.1	0.0	0.2
Madhya Pradesh	19.0	2.4	17.2	0.7	0.2	0.4
West Bengal	31.7	9.8	27.4	1.1	0.3	0.1
Jharkhand	20.3	12.7	9.1	0.0	0.0	0.7
Odisha	13.9	6.9	8.8	0.2	0.0	0.2
Bihar	6.6	1.4	5.5	0.0	0.2	0.3
Sikkim	17.4	14.9	4.2	2.7	0.3	0.0
Arunachal Pradesh	38.7	21.5	25.2	5.2	1.4	0.6
Nagaland	25.0	10.5	18.8	0.7	0.0	0.0
Manipur	35.9	34.1	7.7	1.6	0.8	0.8
Mizoram	54.1	44.1	1.9	1.0	1.8	8.5
Tripura	44.4	16.4	32.6	1.0	5.5	0.1
Meghalaya	53.7	37.6	29.4	2.0	1.4	0.6
Assam	25.3	11.9	16.3	0.6	0.6	0.6
Gujarat	14.2	2.2	11.9	0.4	0.3	0.1
Maharashtra	6.0	2.8	3.6	0.3	0.0	0.1
Goa	7.9	5.1	3.8	2.1	0.2	0.1
Andhra Pradesh	24.0	13.4	12.6	0.1	0.0	0.0
Telangana	15.3	7.1	9.4	0.1	0.0	0.0
Karnataka	16.8	8.0	11.8	0.3	0.5	0.3
Kerala	19.6	14.2	7.9	0.1	0.2	0.0
Tamil Nadu	21.1	12.6	10.8	0.3	0.0	0.0
Puducherry	14.7	10.8	4.6	0.2	0.0	0.3

Note: 1 Includes manufactured cigarettes and rolled tobacco in paper or leaf.

**Appendix Table A-4.11:** Percentage of current female smokers aged 15 or above by various smoked tobacco products according to states/UTs, GATS 2 India, 2016-17

State/UT	Any smoked tobacco product	Any cigarette <sup>1</sup>	Bidi	Cigars, cheroots or cigarillos	Hukkah	Other smoked tobacco
India	2.0	0.6	1.2	0.1	0.3	0.1
Jammu & Kashmir	5.1	0.4	0.3	0.2	5.0	0.2
Himachal Pradesh	1.6	0.1	1.2	0.0	0.4	0.0
Punjab	0.4	0.1	0.3	0.0	0.0	0.0
Chandigarh	0.9	0.3	0.8	0.0	0.0	0.0
Uttarakhand	6.3	0.1	5.4	0.0	1.6	0.0
Haryana	4.8	0.3	3.2	0.1	1.7	0.1
Delhi	1.8	0.1	1.6	0.0	0.1	0.0
Rajasthan	3.7	0.7	2.8	0.2	0.5	0.2
Uttar Pradesh	3.2	0.2	2.6	0.1	0.4	0.0
Chhattisgarh	0.1	0.1	0.0	0.0	0.0	0.0
Madhya Pradesh	0.8	0.1	0.4	0.0	0.0	0.3
West Bengal	0.9	0.3	0.8	0.0	0.0	0.0
Jharkhand	1.6	0.0	1.1	0.0	0.4	0.0
Odisha	0.1	0.1	0.0	0.0	0.0	0.0
Bihar	3.4	0.4	2.9	0.1	0.6	0.0
Sikkim	3.6	2.6	1.7	0.0	0.0	0.1
Arunachal Pradesh	5.4	2.6	3.7	0.4	1.1	0.0
Nagaland	0.5	0.4	0.4	0.2	0.2	0.2
Manipur	6.0	5.5	1.0	0.2	0.0	0.0
Mizoram	14.3	13.7	1.1	0.8	0.5	0.1
Tripura	10.3	0.6	5.3	0.2	7.3	0.1
Meghalaya	9.5	9.1	5.0	2.5	3.4	2.4
Assam	0.8	0.2	0.7	0.0	0.0	0.0
Gujarat	0.7	0.2	0.5	0.0	0.0	0.0
Maharashtra	1.4	0.9	0.1	0.0	0.0	0.4
Goa	0.4	0.1	0.3	0.0	0.0	0.0
Andhra Pradesh	4.6	4.6	0.0	0.0	0.0	0.0
Telangana	1.4	1.0	0.3	0.1	0.1	0.1
Karnataka	0.7	0.7	0.0	0.0	0.0	0.0
Kerala	0.2	0.0	0.2	0.0	0.0	0.0
Tamil Nadu	0.1	0.1	0.0	0.0	0.0	0.0
Puducherry	0.1	0.0	0.0	0.1	0.0	0.0

Note: 1 Includes manufactured cigarettes and rolled tobacco in paper or leaf.

**Appendix Table A-4.12:** Percent distribution of current daily cigarette smokers aged 15 or above by the number of cigarettes smoked per day and mean number of cigarettes smoked per day according to gender and background characteristics, GATS 2 India, 2016-17

Background Characteristic	Number of cigarettes smoked on average per day					Total	Mean number of cigarettes smoked per day
	<5	5-9	10-14	15-24	25+		
<b>Overall</b>	47.9	29.6	14.3	5.2	3.0	100	6.8
<b>Men</b>	45.4	30.8	15.2	5.7	2.9	100	7.0
<b>Age</b>							
15-24	54.0	34.4	7.6	1.9	2.1	100	5.1
25-44	45.9	31.2	16.2	3.7	3.1	100	6.9
45-64	41.3	29.7	16.8	9.4	2.8	100	7.6
65+	46.0	28.1	13.6	8.5	3.8	100	7.4
<b>Residence</b>							
Urban	43.4	32.7	16.8	5.2	2.0	100	6.4
Rural	47.0	29.2	13.8	6.2	3.7	100	7.5
<b>Education Level</b>							
No formal schooling	43.6	30.0	12.8	9.5	4.1	100	8.3
Less than primary	51.1	22.5	18.4	5.4	2.5	100	7.2
Primary but less than secondary	42.0	32.4	18.2	4.9	2.4	100	6.6
Secondary and above	47.1	32.4	12.9	4.6	2.9	100	6.6
<b>Occupation</b>							
Government and non-government employee	50.6	30.0	12.4	4.7	2.4	100	6.7
Self employed	44.2	29.7	16.6	6.1	3.3	100	7.2
Student	37.0	57.3	3.5	0.1	2.1	100	5.5
Home maker	15.1	38.0	35.4	11.4	0.0	100	8.4
Retired or unemployed	51.6	32.4	8.6	5.7	1.7	100	5.6
<b>Women</b>	72.5	17.5	5.7	0.4	4.0	100	5.2
<b>Age</b>							
15-24	91.4*	8.6*	0.0*	0.0*	0.0*	100	2.6*
25-44	60.3	22.6	15.6	1.1	0.4	100	4.7
45-64	80.1	11.4	1.2	0.2	7.1	100	6.0
65+	70.0	23.0	4.9	0.1	2.1	100	4.3
<b>Residence</b>							
Urban	77.6	15.0	6.4	0.6	0.3	100	3.7
Rural	71.8	17.8	5.6	0.4	4.4	100	5.4
<b>Education Level</b>							
No formal schooling	77.0	11.9	6.5	0.1	4.5	100	5.2
Less than primary	54.7	42.0	0.7	1.5	1.0	100	4.2
Primary but less than secondary	44.4	50.7	2.4	1.6	1.0	100	5.6
Secondary and above	28.0*	39.8*	12.8*	14.0*	5.5*	100	9.0*
<b>Occupation</b>							
Government and non-government employee	76.9*	13.0*	3.6*	4.1*	2.4*	100	4.5*
Self employed	86.3	7.6	4.3	0.4	1.4	100	3.9
Student	0.0*	100.0*	0.0*	0.0*	0.0*	100	5.3*
Home maker	58.3	27.6	7.6	0.4	6.1	100	6.3
Retired or unemployed	60.8*	26.4*	2.8*	0.0*	10.0*	100	8.0*

Note: \*Based on less than 25 unweighted cases.



**Appendix Table A-4.13:** Percent distribution of current daily cigarette smokers aged 15 or above by the number of cigarettes smoked per day and mean number of cigarettes smoked per day according to states/UTs, GATS 2 India, 2016-17

State/UT	Number of cigarettes smoked per day					Total	Mean number of cigarettes smoked per day
	<5	5-9	10-14	15-24	25+		
India	47.9	29.6	14.3	5.2	3.0	100	6.8
Jammu & Kashmir	26.8	36.5	26.3	9.6	0.8	100	7.6
Himachal Pradesh	58.4*	16.3*	25.3*	0.0*	0.0*	100	4.5*
Punjab	39.7*	27.5*	12.5*	3.9*	16.4*	100	13.6*
Chandigarh	62.1	23.5	12.4	2.1	0.0	100	4.6
Uttarakhand	75.1	18.8	6.0	0.0	0.0	100	3.5
Haryana	39.1*	53.7*	5.4*	1.8*	0.0*	100	5.2*
Delhi	66.6	12.2	10.6	10.7	0.0	100	5.5
Rajasthan	92.7*	0.0*	3.9*	0.0*	3.4*	100	3.2*
Uttar Pradesh	59.6	26.8	6.5	7.0	0.0	100	4.8
Chhattisgarh	86.1*	13.9*	0.0*	0.0*	0.0*	100	2.8*
Madhya Pradesh	71.9*	11.3*	9.9*	6.9*	0.0*	100	5.1*
West Bengal	29.7	35.2	22.2	6.4	6.5	100	9.0
Jharkhand	61.9	33.1	0.0	0.0	5.1	100	6.7
Odisha	59.7	19.4	18.7	2.2	0.0	100	4.8
Bihar	40.3*	28.5*	12.1*	0.0*	19.1*	100	12.8*
Sikkim	48.9	21.5	5.5	11.0	13.1	100	13.7
Arunachal Pradesh	39.1	35.7	18.7	5.8	0.6	100	6.5
Nagaland	32.7	16.1	35.5	10.6	5.1	100	9.7
Manipur	21.9	41.4	26.6	9.5	0.6	100	7.9
Mizoram	40.5	21.6	24.2	9.6	4.2	100	7.6
Tripura	35.7	30.0	19.0	8.2	7.1	100	9.9
Meghalaya	17.9	46.2	24.1	10.8	0.9	100	8.2
Assam	46.1	35.1	18.1	0.7	0.0	100	5.1
Gujarat	49.0*	26.3*	21.9*	2.9*	0.0*	100	5.3*
Maharashtra	45.3	38.0	16.7	0.0	0.0	100	5.0
Goa	36.1*	22.7*	41.1*	0.0*	0.0*	100	6.1*
Andhra Pradesh	60.0	27.1	9.0	3.2	0.7	100	4.5
Telangana	59.2	25.1	14.2	1.5	0.0	100	4.4
Karnataka	49.4	23.7	14.9	8.5	3.5	100	7.0
Kerala	33.6	36.0	21.7	8.1	0.7	100	6.8
Tamil Nadu	45.6	35.8	13.1	2.7	2.7	100	6.2
Puducherry	35.0	37.8	18.5	7.0	1.6	100	7.0

Note: \*Based on less than 25 unweighted cases

**Appendix Table A-4.14:** Percent distribution of current daily *bidi* smokers aged 15 or above by the number of *bidis* smoked per day and mean number of *bidis* smoked per day according to gender and background characteristics, GATS 2 India, 2016-17

Background Characteristic	Number of <i>bidis</i> smoked on average per day					Total	Mean number of <i>bidis</i> smoked per day
	<5	5-9	10-14	15-24	25+		
<b>Overall</b>	25.4	21.4	20.9	17.9	14.4	100	15.1
<b>Men</b>	24.0	21.0	21.2	18.7	15.2	100	15.6
<b>Age</b>							
15- 24	21.2	31.9	15.7	15.1	16.0	100	14.6
25- 44	24.4	19.7	21.5	17.1	17.2	100	16.4
45- 64	21.5	21.1	20.6	21.8	15.0	100	16.1
65+	31.7	20.5	24.0	15.3	8.5	100	12.0
<b>Residence</b>							
Urban	24.7	20.9	20.6	19.8	13.9	100	14.5
Rural	23.8	21.0	21.3	18.4	15.5	100	16.0
<b>Education Level</b>							
No formal schooling	25.7	17.5	20.8	20.3	15.8	100	17.4
Less than primary	23.7	19.9	17.9	19.1	19.4	100	15.1
Primary but less than secondary	22.9	23.8	22.1	16.7	14.4	100	15.4
Secondary and above	22.2	25.2	24.3	18.7	9.7	100	12.0
<b>Occupation</b>							
Government and non-government employee	28.1	20.0	19.0	16.8	16.1	100	12.5
Self employed	23.2	20.8	21.5	18.7	15.8	100	16.4
Student	9.0*	4.3*	22.1*	64.7*	0.0*	100	15.3*
Home maker	23.3	24.3	18.4	21.7	12.3	100	12.2
Retired or unemployed	27.1	23.4	20.8	19.4	9.3	100	13.0
<b>Women</b>	43.9	26.9	16.9	7.5	4.7	100	7.8
<b>Age</b>							
15-24	95.5*	1.9*	0.0*	0.0*	2.6*	100	4.3*
25-44	46.6	30.1	12.6	8.9	1.8	100	7.1
45-64	38.0	27.8	25.8	4.7	3.6	100	7.8
65+	48.3	24.4	6.9	11.5	8.9	100	8.7
<b>Residence</b>							
Urban	51.2	25.0	15.2	4.9	3.8	100	6.7
Rural	43.2	27.1	17.1	7.8	4.8	100	7.9
<b>Education Level</b>							
No formal schooling	42.4	25.5	18.8	8.3	5.0	100	8.2
Less than primary	55.0	39.8	2.3	2.1	0.9	100	4.9
Primary but less than secondary	40.2	48.9	3.7	2.5	4.7	100	5.5
Secondary and above	95.6*	3.2*	0.0*	0.0*	1.3*	100	3.8*
<b>Occupation</b>							
Government and non-government employee	20.5*	79.5*	0.0*	0.0*	0.0*	100	5.2*
Self employed	46.9	24.5	13.1	9.8	5.6	100	8.8
Student	0.0*	0.0*	0.0*	0.0*	0.0*	100	0.0*
Home maker	43.4	27.5	19.5	7.0	2.7	100	7.1
Retired or unemployed	39.1	29.2	9.6	6.5	15.6	100	10.5

Note: \*Based on less than 25 unweighted cases

**Appendix Table A-4.15:** Percent distribution of current daily *bidi* smokers aged 15 or above by the number of *bidis* smoked per day and mean number of *bidis* smoked per day according to states/UTs, GATS 2 India, 2016-17

State/UT	Number of <i>bidis</i> smoked on average per day					Total	Mean number of <i>bidis</i> smoked per day
	<5	5-9	10-14	15-24	25+		
India	25.4	21.4	20.9	17.9	14.4	100	15.1
Jammu & Kashmir	14.9	34.7	26.5	22.0	1.9	100	10.0
Himachal Pradesh	19.9	22.5	27.2	25.2	5.2	100	12.2
Punjab	23.3	41.2	26.0	9.6	0.0	100	7.7
Chandigarh	47.0	16.6	28.3	6.3	1.7	100	6.6
Uttarakhand	15.7	27.8	27.6	19.3	9.6	100	12.0
Haryana	24.7	26.6	26.3	20.4	2.1	100	9.5
Delhi	20.7	23.1	25.5	21.7	9.1	100	11.3
Rajasthan	25.6	22.2	18.1	22.4	11.7	100	11.7
Uttar Pradesh	27.1	16.7	23.1	17.9	15.2	100	12.8
Chhattisgarh	14.2	36.2	28.8	9.7	11.1	100	10.0
Madhya Pradesh	44.3	22.4	15.4	14.2	3.6	100	7.7
West Bengal	11.1	22.1	19.8	18.8	28.1	100	28.7
Jharkhand	23.0	55.5	19.7	0.0	1.8	100	7.1
Odisha	34.6	34.7	16.9	5.0	8.9	100	8.3
Bihar	44.3	30.5	17.2	4.5	3.5	100	7.5
Sikkim	47.8	20.7	10.4	21.1	0.0	100	7.2
Arunachal Pradesh	15.4	51.1	16.4	12.1	4.9	100	9.0
Nagaland	48.5	11.9	15.7	15.2	8.6	100	8.4
Manipur	31.0	38.4	19.7	8.9	2.0	100	7.1
Mizoram	21.3*	73.5*	5.1*	0.0*	0.0*	100	5.9*
Tripura	17.8	26.7	20.4	20.8	14.3	100	15.6
Meghalaya	20.4	17.0	34.4	20.8	7.4	100	11.1
Assam	3.2	8.2	9.8	16.4	62.3	100	51.8
Gujarat	13.8	18.5	22.0	19.7	26.0	100	14.8
Maharashtra	30.3	37.0	14.2	8.4	10.2	100	10.3
Goa	21.0*	58.0*	5.7*	8.0*	7.3*	100	9.4*
Andhra Pradesh	39.4	17.3	24.2	16.2	2.9	100	8.4
Telangana	42.8	8.7	15.6	25.4	7.5	100	9.8
Karnataka	27.4	16.2	19.4	32.4	4.6	100	11.7
Kerala	17.6	9.4	30.1	32.8	10.1	100	13.9
Tamil Nadu	32.5	11.1	21.1	19.0	16.4	100	17.2
Puducherry	17.6	17.2	11.4	19.5	34.3	100	26.1

**Appendix Table A-4.16:** Percent distribution of ever daily smokers aged 20-34 by age at daily smoking initiation according to states/UTs, GATS 2 India, 2016-17

State/UT	Age at smoking initiation				Total	Mean age
	<15	15-17	18-19	20-34		
India	10.6	22.5	18.0	48.9	100	18.9
Jammu & Kashmir	12.4	33.8	19.4	34.4	100	18.1
Himachal Pradesh	3.6	9.2	19.5	67.7	100	20.5
Punjab	0.0	29.8	19.1	51.2	100	19.7
Chandigarh	19.1	10.2	4.4	66.3	100	18.9
Uttarakhand	5.5	33.3	18.6	42.6	100	18.7
Haryana	4.4	21.3	34.1	40.2	100	19.4
Delhi	10.9	17.6	28.5	42.9	100	19.2
Rajasthan	14.1	23.2	17.1	45.5	100	18.5
Uttar Pradesh	10.7	34.7	10.2	44.4	100	18.1
Chhattisgarh	0.0*	43.0*	27.9*	29.1*	100	18.5*
Madhya Pradesh	7.9	17.6	20.0	54.4	100	19.6
West Bengal	10.3	15.8	21.9	52.0	100	19.0
Jharkhand	5.9	18.1	27.6	48.4	100	19.2
Odisha	28.9	11.3	18.5	41.3	100	16.9
Bihar	4.6	29.9	18.5	47.1	100	19.0
Sikkim	29.3	19.2	18.0	33.5	100	16.3
Arunachal Pradesh	22.5	47.5	12.2	17.8	100	16.3
Nagaland	4.5	25.1	34.1	36.2	100	18.2
Manipur	2.8	30.0	13.7	53.4	100	20.1
Mizoram	13.8	37.5	24.9	23.8	100	17.5
Tripura	8.4	28.9	15.5	47.3	100	18.5
Meghalaya	8.9	50.2	22.0	19.0	100	17.0
Assam	10.5	28.3	21.1	40.2	100	18.5
Gujarat	33.1*	7.3*	17.9*	41.7*	100	16.7*
Maharashtra	44.9*	12.3*	10.2*	32.7*	100	16.0*
Goa	0.0*	27.5*	0.0*	72.5*	100	20.3*
Andhra Pradesh	7.0	17.7	11.2	64.0	100	19.8
Telangana	0.0*	32.5*	9.8*	57.8*	100	21.0*
Karnataka	8.7	17.0	17.4	56.9	100	19.9
Kerala	7.4	11.5	16.8	64.3	100	20.6
Tamil Nadu	1.0	8.9	16.8	73.3	100	20.6
Puducherry	9.9	16.9	16.2	57.0	100	19.0

Note: \*Based on less than 25 unweighted cases.

**Appendix Table A-4.17:** Percentage of all adults aged 15 or above and ever daily smokers who are former daily smokers by states/UTs, GATS 2 India, 2016-17

State/UT	Former daily smokers <sup>1</sup> (Among all adults)	Former daily smokers <sup>1</sup> (Among ever daily smokers) <sup>2</sup>
<b>India</b>	1.8	16.8
Jammu & Kashmir	1.8	8.6
Himachal Pradesh	1.6	11.3
Punjab	0.5	7.3
Chandigarh	1.3	14.8
Uttarakhand	2.5	13.2
Haryana	1.1	5.6
Delhi	1.8	16.9
Rajasthan	2.6	18.3
Uttar Pradesh	2.4	18.6
Chhattisgarh	1.4	23.6
Madhya Pradesh	1.5	15.0
West Bengal	1.4	8.7
Jharkhand	0.8	10.4
Odisha	2.8	35.6
Bihar	2.2	32.9
Sikkim	0.7	7.0
Arunachal Pradesh	1.8	9.3
Nagaland	2.3	19.2
Manipur	3.0	16.7
Mizoram	2.8	8.1
Tripura	1.1	4.6
Meghalaya	1.2	4.2
Assam	3.7	25.6
Gujarat	0.8	10.6
Maharashtra	0.7	19.1
Goa	0.2	8.2
Andhra Pradesh	2.2	14.2
Telangana	1.2	13.1
Karnataka	1.7	17.3
Kerala	5.1	40.2
Tamil Nadu	1.4	12.5
Puducherry	1.6	19.3

Note: 1 Includes current non-smokers.

2 Also known as the quit ratio for daily smoking

**Appendix Table A-4.18:** Percent distribution of former daily smokers aged 15 or above by time since quitting smoking according to states/UTs, GATS 2 India, 2016-17

State/UT	Time since quitting smoking (in years)				Total
	<1	1 – 4	5 – 9	10+	
<b>India</b>	12.1	21.7	20.0	46.1	100
Jammu & Kashmir	7.0	22.2	25.1	45.6	100
Himachal Pradesh	7.9	20.8	15.4	55.9	100
Punjab	41.4*	0.0*	32.9*	25.7*	100
Chandigarh	44.1*	9.3*	22.2*	24.4*	100
Uttarakhand	6.5	28.9	18.0	46.6	100
Haryana	29.7*	14.9*	15.6*	39.8*	100
Delhi	11.3	35.7	16.5	36.5	100
Rajasthan	14.6	38.9	20.5	25.9	100
Uttar Pradesh	13.2	16.2	22.7	47.8	100
Chhattisgarh	9.5	30.3	22.4	37.9	100
Madhya Pradesh	11.7	29.9	7.9	50.5	100
West Bengal	13.1	22.2	14.7	50.0	100
Jharkhand	8.1*	11.6*	3.7*	76.6*	100
Odisha	9.1	20.0	7.4	63.5	100
Bihar	10.5	21.8	22.1	45.6	100
Sikkim	5.1*	58.5*	28.3*	8.0*	100
Arunachal Pradesh	9.4	16.4	31.7	42.5	100
Nagaland	7.6	16.0	12.6	63.8	100
Manipur	10.0	21.1	31.9	37.0	100
Mizoram	29.7	15.5	18.8	35.9	100
Tripura	3.5*	33.1*	18.6*	44.8*	100
Meghalaya	3.0*	42.6*	20.6*	33.9*	100
Assam	13.3	27.1	13.8	45.9	100
Gujarat	7.2*	44.6*	15.4*	32.8*	100
Maharashtra	9.4*	27.3*	29.5*	33.8*	100
Goa	14.9*	12.1*	27.1*	45.9*	100
Andhra Pradesh	10.2	14.1	41.6	34.1	100
Telangana	13.6	35.0	5.2	46.2	100
Karnataka	21.0	12.6	16.3	50.2	100
Kerala	7.0	11.2	27.8	53.9	100
Tamil Nadu	10.5	16.4	12.7	60.4	100
Puducherry	28.1	36.3	3.7	31.9	100

Note: \*Based on less than 25 unweighted cases

**Appendix Table A-4.19:** Percentage of adults aged 15 or above by detailed smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current user of smokeless tobacco					Current non-user of smokeless tobacco					Never users
	Current user of smokeless tobacco	Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users		
India	21.4	18.2	3.1	0.8	2.4	78.6	1.2	77.5	0.8	76.6	
Jammu & Kashmir	4.3	3.4	0.9	0.4	0.6	95.7	0.5	95.2	0.4	94.8	
Himachal Pradesh	3.1	2.0	1.1	0.3	0.8	96.9	0.6	96.3	0.4	95.9	
Punjab	8.0	6.5	1.5	0.2	1.3	92.0	0.1	91.9	0.5	91.4	
Chandigarh	6.1	4.8	1.3	0.4	0.9	93.9	0.2	93.7	0.3	93.4	
Uttarakhand	12.4	9.5	2.9	0.2	2.6	87.6	1.2	86.5	1.0	85.4	
Haryana	6.3	4.8	1.5	0.2	1.3	93.7	0.3	93.4	0.2	93.2	
Delhi	8.8	6.5	2.3	0.4	1.9	91.2	1.2	90.0	0.7	89.3	
Rajasthan	14.1	11.7	2.4	0.6	1.8	85.9	1.4	84.5	0.7	83.8	
Uttar Pradesh	29.4	23.9	5.5	1.4	4.1	70.6	1.7	69.0	1.7	67.3	
Chhattisgarh	36.0	33.7	2.3	0.3	2.0	64.0	1.2	62.7	0.6	62.1	
Madhya Pradesh	28.1	24.3	3.8	0.9	3.0	71.9	1.9	70.0	0.8	69.2	
West Bengal	20.1	17.4	2.7	0.9	1.8	79.9	0.8	79.1	0.8	78.4	
Jharkhand	35.4	31.0	4.3	0.8	3.5	64.6	0.9	63.8	0.8	62.9	
Odisha	42.9	38.0	4.8	1.5	3.3	57.1	2.1	55.0	1.1	53.9	
Bihar	23.5	21.9	1.6	0.3	1.3	76.5	0.6	75.9	0.2	75.7	



State/UT	Current user of smokeless tobacco						Current non-user of smokeless tobacco						Never users
	Current user of smokeless tobacco	Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users				
Sikkim	9.7	7.7	2.1	0.8	1.3	90.3	0.8	89.5	0.4	89.1			
Arunachal Pradesh	39.3	30.6	8.7	2.4	6.3	60.7	0.9	59.7	1.5	58.3			
Nagaland	39.0	24.2	14.8	2.9	11.9	61.0	1.6	59.4	2.3	57.0			
Manipur	47.7	32.4	15.3	1.6	13.8	52.3	1.6	50.6	2.3	48.3			
Mizoram	33.5	27.9	5.6	2.4	3.2	66.5	1.3	65.1	2.6	62.5			
Tripura	48.5	34.1	14.4	5.7	8.7	51.5	0.4	51.0	0.5	50.6			
Meghalaya	20.3	13.5	6.8	1.8	5.0	79.7	1.2	78.4	0.7	77.7			
Assam	41.7	35.8	5.9	1.5	4.4	58.3	2.5	55.8	1.6	54.3			
Gujarat	19.2	17.1	2.0	0.5	1.5	80.8	1.1	79.8	0.7	79.1			
Maharashtra	24.4	21.7	2.7	0.8	1.9	75.6	1.0	74.6	0.8	73.8			
Goa	6.5	3.9	2.6	1.2	1.4	93.5	0.4	93.1	0.4	92.7			
Andhra Pradesh	7.1	5.1	2.0	0.1	1.9	92.9	0.5	92.4	0.4	91.9			
Telangana	10.1	8.8	1.3	0.4	0.9	89.9	0.6	89.3	0.3	89.0			
Karnataka	16.3	13.9	2.4	1.0	1.4	83.7	1.3	82.4	0.1	82.3			
Kerala	5.4	3.4	2.0	0.4	1.6	94.6	2.3	92.3	2.2	90.0			
Tamil Nadu	10.6	8.1	2.5	0.1	2.3	89.4	0.5	88.9	0.2	88.8			
Puducherry	4.7	4.0	0.7	0.4	0.3	95.3	0.7	94.6	0.5	94.1			

**Appendix Table A-4.20:** Percentage of men aged 15 or above by detailed smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current user of smokeless tobacco					Current non-user of smokeless tobacco					Never users
	Current user of smokeless tobacco	Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users		
India	29.6	25.1	4.5	1.0	3.5	70.4	1.4	68.9	1.2	67.7	
Jammu & Kashmir	6.8	5.3	1.5	0.7	0.8	93.2	0.7	92.5	0.6	91.9	
Himachal Pradesh	6.1	4.0	2.1	0.6	1.5	93.9	1.2	92.8	0.7	92.1	
Punjab	15.0	12.2	2.8	0.4	2.4	85.0	0.3	84.8	0.9	83.9	
Chandigarh	10.4	8.2	2.2	0.7	1.5	89.6	0.3	89.3	0.5	88.8	
Uttarakhand	21.2	16.9	4.4	0.2	4.1	78.8	2.1	76.7	1.9	74.8	
Haryana	10.0	8.4	1.6	0.3	1.3	90.0	0.5	89.5	0.2	89.2	
Delhi	13.7	10.1	3.6	0.7	2.9	86.3	1.6	84.7	0.9	83.8	
Rajasthan	22.0	18.7	3.3	1.0	2.3	78.0	1.9	76.2	1.2	75.0	
Uttar Pradesh	42.6	34.9	7.7	1.8	5.9	57.4	1.9	55.5	2.2	53.3	
Chhattisgarh	47.7	43.9	3.8	0.4	3.4	52.3	1.4	51.0	0.8	50.1	
Madhya Pradesh	38.7	32.3	6.4	1.4	5.0	61.3	2.4	58.9	1.2	57.7	
West Bengal	22.8	18.8	4.0	1.3	2.7	77.2	0.7	76.5	1.2	75.3	
Jharkhand	54.1	48.5	5.6	1.3	4.3	45.9	1.0	44.9	0.7	44.2	
Odisha	52.1	44.8	7.4	1.8	5.6	47.9	2.7	45.2	1.5	43.7	
Bihar	41.9	38.9	2.9	0.5	2.4	58.1	0.8	57.4	0.4	57.0	

State/UT	Current user of smokeless tobacco						Current non-user of smokeless tobacco						Never users
	Current user of smokeless tobacco	Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users				
Sikkim	13.8	11.1	2.8	1.3	1.4	86.2	0.7	85.4	0.4	85.0			
Arunachal Pradesh	50.1	40.5	9.6	1.8	7.7	49.9	1.2	48.7	2.1	46.6			
Nagaland	46.0	23.5	22.5	4.2	18.4	54.0	2.2	51.8	2.3	49.5			
Manipur	50.2	28.5	21.7	1.9	19.8	49.8	1.6	48.2	3.3	44.9			
Mizoram	21.3	15.9	5.4	2.7	2.8	78.7	1.3	77.4	3.6	73.8			
Tripura	40.8	25.7	15.1	7.5	7.6	59.2	0.2	58.9	0.5	58.4			
Meghalaya	11.6	8.6	3.0	0.5	2.4	88.4	0.2	88.2	0.9	87.3			
Assam	50.5	42.6	7.9	1.8	6.1	49.5	3.4	46.1	2.7	43.5			
Gujarat	27.6	24.3	3.3	0.6	2.7	72.4	1.5	70.9	0.9	70.0			
Maharashtra	31.7	28.1	3.5	1.1	2.5	68.3	1.0	67.4	1.4	66.0			
Goa	9.2	5.5	3.7	1.6	2.1	90.8	0.2	90.5	0.7	89.8			
Andhra Pradesh	7.6	5.1	2.5	0.1	2.4	92.4	1.0	91.4	0.6	90.8			
Telangana	11.3	9.6	1.7	0.6	1.1	88.7	0.9	87.8	0.7	87.1			
Karnataka	22.2	18.6	3.6	1.1	2.5	77.8	1.9	75.9	0.1	75.8			
Kerala	7.4	3.7	3.7	0.5	3.2	92.6	3.2	89.4	4.0	85.4			
Tamil Nadu	11.9	8.8	3.0	0.2	2.8	88.1	0.6	87.6	0.1	87.5			
Puducherry	4.5	3.4	1.1	0.6	0.5	95.5	0.3	95.1	0.6	94.5			

**Appendix Table A-4.21:** Percentage of women aged 15 or above by detailed smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Current user of smokeless tobacco	Current user of smokeless tobacco				Current non-user of smokeless tobacco				Never users
		Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users	
India	12.8	11.1	1.7	0.5	1.2	87.2	0.9	86.4	0.4	85.9
Jammu & Kashmir	1.5	1.2	0.3	0.0	0.3	98.5	0.3	98.2	0.2	98.0
Himachal Pradesh	0.1	0.0	0.1	0.0	0.1	99.9	0.0	99.8	0.1	99.8
Punjab	0.3	0.3	0.0	0.0	0.0	99.7	0.0	99.7	0.0	99.7
Chandigarh	0.8	0.6	0.2	0.1	0.1	99.2	0.0	99.2	0.0	99.2
Uttarakhand	3.4	2.1	1.4	0.2	1.2	96.6	0.3	96.3	0.1	96.2
Haryana	2.2	0.8	1.4	0.1	1.2	97.8	0.0	97.8	0.2	97.6
Delhi	3.2	2.4	0.8	0.1	0.7	96.8	0.6	96.2	0.5	95.7
Rajasthan	5.8	4.4	1.4	0.2	1.2	94.2	0.9	93.3	0.2	93.0
Uttar Pradesh	15.2	12.0	3.1	1.0	2.1	84.8	1.4	83.4	1.2	82.3
Chhattisgarh	24.5	23.6	0.9	0.2	0.7	75.5	1.0	74.5	0.5	74.0
Madhya Pradesh	16.8	15.7	1.0	0.3	0.7	83.2	1.3	81.9	0.4	81.5
West Bengal	17.2	15.9	1.3	0.4	0.9	82.8	0.9	81.9	0.3	81.6
Jharkhand	15.7	12.7	3.0	0.2	2.8	84.3	0.7	83.6	1.0	82.6
Odisha	33.6	31.2	2.3	1.2	1.1	66.4	1.5	64.9	0.7	64.2
Bihar	3.6	3.5	0.1	0.0	0.1	96.4	0.4	96.0	0.1	96.0

State/UT	Current user of smokeless tobacco	Current user of smokeless tobacco				Current non-user of smokeless tobacco				Never users
	Daily user	Occasional user	Occasional user, formerly daily	Occasional user, never daily	Current non-user of smokeless tobacco	Former daily users	Never daily users	Former occasional users	Never users	
Sikkim	5.1	3.8	1.3	0.1	1.1	94.9	0.8	94.1	0.3	93.8
Arunachal Pradesh	27.7	20.0	7.8	3.0	4.8	72.3	0.7	71.6	0.7	70.9
Nagaland	31.5	25.0	6.5	1.6	4.9	68.5	0.9	67.5	2.4	65.1
Manipur	45.2	36.2	9.0	1.2	7.8	54.8	1.7	53.1	1.3	51.7
Mizoram	46.0	40.1	5.9	2.2	3.7	54.0	1.4	52.6	1.5	51.0
Tripura	56.5	42.9	13.7	3.9	9.8	43.5	0.6	42.8	0.5	42.4
Meghalaya	29.1	18.4	10.6	3.2	7.5	70.9	2.3	68.7	0.6	68.1
Assam	32.5	28.7	3.8	1.1	2.7	67.5	1.6	65.8	0.4	65.4
Gujarat	10.0	9.4	0.7	0.4	0.3	90.0	0.7	89.3	0.5	88.8
Maharashtra	16.6	14.8	1.8	0.5	1.3	83.4	1.0	82.4	0.2	82.2
Goa	3.6	2.2	1.4	0.9	0.6	96.4	0.6	95.8	0.1	95.7
Andhra Pradesh	6.6	5.1	1.4	0.1	1.3	93.4	0.1	93.3	0.2	93.0
Telangana	9.0	8.1	0.8	0.2	0.7	91.0	0.2	90.8	0.0	90.8
Karnataka	10.3	9.2	1.1	0.8	0.3	89.7	0.8	88.9	0.0	88.9
Kerala	3.6	3.1	0.4	0.2	0.2	96.4	1.5	94.9	0.7	94.2
Tamil Nadu	9.3	7.4	1.9	0.1	1.8	90.7	0.5	90.2	0.3	90.0
Puducherry	4.9	4.6	0.3	0.2	0.1	95.1	1.0	94.1	0.3	93.7

**Appendix Table A-4.22:** Percentage of adults aged 15 or above who are current smokeless tobacco users by various smokeless tobacco products according to gender and background characteristics, GATS 2 India, 2016-17

Background characteristic	Any smokeless tobacco product	Betel quid with tobacco	Khaini or tobacco-lime mixture	Gutka, tobacco lime, areca-nut mixture	Oral tobacco	Paan masala with tobacco	Snuff	Other smokeless tobacco products
<b>Overall</b>	21.4	5.8	11.2	6.8	3.8	2.8	0.6	0.3
<b>Men</b>	29.6	7.1	17.9	10.8	3.3	4.5	0.7	0.3
<b>Age</b>								
15-24	17.4	3.8	7.7	9.1	1.6	3.9	0.4	0.2
25-44	35.0	8.5	20.4	14.7	3.9	6.0	0.7	0.3
45-64	33.4	8.3	23.2	8.0	4.5	3.4	0.9	0.3
65+	32.8	7.2	24.4	4.4	2.9	2.0	1.0	0.5
<b>Residence</b>								
Urban	21.5	5.1	11.2	10.2	2.5	3.5	0.7	0.2
Rural	34.0	8.1	21.4	11.1	3.8	5.1	0.7	0.3
<b>Education Level</b>								
No formal schooling	42.0	10.7	29.1	10.8	5.8	5.5	1.3	0.3
Less than primary	42.7	10.0	26.6	13.1	5.2	5.2	1.1	0.5
Primary but less than secondary	35.4	7.3	20.5	14.3	3.7	6.2	0.7	0.3
Secondary and above	17.5	4.8	9.4	7.6	1.7	2.7	0.4	0.2
<b>Occupation</b>								
Government and non-government employee	24.7	6.7	12.3	11.1	2.6	4.8	0.4	0.1
Self employed	37.5	8.8	23.3	13.5	4.4	5.5	0.9	0.3
Student	4.4	1.2	1.8	2.1	0.4	0.9	0.1	0.1
Home maker	27.9	5.6	18.3	9.9	4.2	5.7	2.7	0.4
Retired or unemployed	26.6	5.3	18.1	5.7	2.4	2.8	0.6	0.5
<b>Women</b>	12.8	4.5	4.2	2.7	4.3	1.1	0.6	0.3
<b>Age</b>								
15-24	3.6	0.6	0.7	1.1	1.4	0.3	0.0	0.1
25-44	11.1	3.6	3.3	2.7	3.9	1.0	0.4	0.2
45-64	20.6	7.6	7.3	3.6	7.1	1.8	1.1	0.4
65+	26.6	11.3	10.0	5.1	8.1	1.8	1.5	0.6
<b>Residence</b>								
Urban	8.6	3.3	2.2	2.2	3.1	1.0	0.6	0.2
Rural	14.9	5.1	5.2	3.0	5.0	1.1	0.6	0.3
<b>Education Level</b>								
No formal schooling	22.6	8.1	8.3	4.5	7.2	1.8	1.1	0.5
Less than primary	16.3	6.3	5.0	2.7	6.1	1.1	0.7	0.3
Primary but less than secondary	9.5	2.8	2.0	2.5	3.6	0.9	0.3	0.2
Secondary and above	2.4	0.9	0.6	0.6	0.9	0.4	0.0	0.0
<b>Occupation</b>								
Government and non-government employee	8.8	2.7	2.8	2.1	3.2	1.5	0.4	0.2
Self employed	20.6	7.1	7.7	4.0	6.8	1.3	1.0	0.4
Student	0.8	0.2	0.0	0.2	0.1	0.2	0.0	0.1
Home maker	11.6	4.1	3.6	2.6	4.0	1.0	0.4	0.3
Retired or unemployed	22.6	8.6	6.4	3.9	8.0	2.5	2.2	0.3

**Appendix Table A-4.23:** Percentage of current male smokeless tobacco users aged 15 or above by various smokeless tobacco products according to states/UTs, GATS 2 India, 2016-17

State/UT	Any smokeless tobacco product	Betel quid with tobacco	Khaini or tobacco lime mixture	Gutka tobacco lime, areca nut mixture	Oral tobacco	Paan masala with tobacco	Snuff	Other smokeless tobacco
India	29.6	7.1	17.9	10.8	3.3	4.5	0.7	0.3
Jammu & Kashmir	6.8	1.3	4.0	0.6	0.8	0.3	0.3	0.8
Himachal Pradesh	6.1	0.1	5.3	1.0	0.1	0.2	0.1	0.2
Punjab	15.0	0.7	9.8	4.1	0.9	0.4	0.0	0.0
Chandigarh	10.4	1.4	8.6	1.7	1.4	0.6	0.0	0.0
Uttarakhand	21.2	3.7	14.4	4.1	0.2	6.1	0.0	0.0
Haryana	10.0	1.3	5.8	4.4	0.3	0.1	0.0	0.0
Delhi	13.7	4.1	8.3	4.9	2.4	2.2	0.2	0.2
Rajasthan	22.0	7.0	14.5	14.6	7.0	8.2	5.6	0.4
Uttar Pradesh	42.6	15.7	25.1	18.5	4.0	12.5	0.2	0.1
Chhattisgarh	47.7	3.2	26.3	14.4	20.3	3.6	0.1	0.9
Madhya Pradesh	38.7	5.0	15.0	21.8	1.9	7.6	0.4	0.3
West Bengal	22.8	5.4	17.5	2.6	1.5	1.8	0.2	0.2
Jharkhand	54.1	8.4	44.3	15.5	3.3	2.0	0.4	0.5
Odisha	52.1	11.1	22.6	12.2	13.3	12.2	0.1	2.4
Bihar	41.9	6.1	37.3	6.9	2.2	2.6	1.4	0.0
Sikkim	13.8	3.4	12.4	2.3	0.2	0.8	0.0	0.1
Arunachal Pradesh	50.1	11.9	34.0	29.7	1.4	6.0	1.2	0.0
Nagaland	46.0	24.2	11.9	9.4	8.1	23.5	0.1	0.1
Manipur	50.2	37.5	26.8	4.5	3.4	5.6	0.9	1.4
Mizoram	21.3	3.4	8.0	2.5	10.8	1.2	0.0	4.5
Tripura	40.8	26.4	16.0	3.8	0.4	9.2	0.0	0.5
Meghalaya	11.6	3.7	8.2	1.3	1.5	0.9	0.3	0.1
Assam	50.5	15.2	37.3	10.0	0.9	4.4	0.2	0.0
Gujarat	27.6	1.8	5.8	20.5	4.7	2.0	0.1	0.1
Maharashtra	31.7	3.6	23.8	13.7	1.9	2.1	0.4	0.2
Goa	9.2	3.0	7.4	4.9	0.7	2.3	0.1	0.2
Andhra Pradesh	7.6	0.4	5.6	1.1	0.7	0.2	0.1	0.1
Telangana	11.3	2.1	5.5	3.2	4.0	0.8	0.0	0.0
Karnataka	22.2	10.8	4.3	10.4	1.3	1.0	0.5	0.9
Kerala	7.4	6.0	0.8	0.5	0.6	0.7	0.9	0.0
Tamil Nadu	11.9	4.7	4.1	1.5	2.6	0.1	0.9	0.0
Puducherry	4.5	1.9	2.2	1.3	0.2	0.1	0.4	0.1

**Appendix Table A-4.24:** Percentage of current female smokeless tobacco users aged 15 or above by various smokeless tobacco products according to states/UTs, GATS 2 India, 2016-17

States/UT	Any smokeless tobacco product	Betel quid with tobacco	Khaini or tobacco lime mixture	Gutka, tobacco lime, areca nut mixture	Oral tobacco	Paan masala with tobacco	Snuff	Other smokeless tobacco
India	12.8	4.5	4.2	2.7	4.3	1.1	0.6	0.3
Jammu & Kashmir	1.5	0.2	0.5	0.1	0.5	0.1	0.6	0.0
Himachal Pradesh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Punjab	0.3	0.0	0.1	0.2	0.0	0.0	0.0	0.0
Chandigarh	0.8	0.4	0.1	0.2	0.2	0.0	0.0	0.0
Uttarakhand	3.4	1.7	1.7	0.3	0.3	0.0	0.0	0.0
Haryana	2.2	1.0	0.2	0.4	0.2	0.8	0.2	0.0
Delhi	3.2	0.9	0.9	0.7	0.7	0.2	0.5	0.0
Rajasthan	5.8	0.8	1.6	3.1	2.2	0.8	0.6	0.0
Uttar Pradesh	15.2	4.3	5.9	4.0	4.7	1.4	0.0	0.0
Chhattisgarh	24.5	0.7	5.9	1.3	19.1	0.0	0.0	0.0
Madhya Pradesh	16.8	3.2	8.2	5.0	6.0	1.0	0.9	0.3
West Bengal	17.2	7.3	3.8	3.1	8.4	2.7	0.1	0.0
Jharkhand	15.7	1.2	7.9	0.6	5.8	0.1	0.0	3.0
Odisha	33.6	6.2	11.2	6.5	16.6	5.0	0.3	0.6
Bihar	3.6	0.4	2.2	0.1	0.9	0.1	0.0	0.0
Sikkim	5.1	1.7	4.5	0.0	0.1	0.3	0.0	0.0
Arunachal Pradesh	27.7	18.0	11.0	7.4	6.8	3.4	0.1	0.4
Nagaland	31.5	10.3	8.1	9.4	1.9	18.4	0.2	0.0
Manipur	45.2	39.8	8.2	1.0	1.0	2.8	0.3	2.2
Mizoram	46.0	5.3	14.3	5.5	32.6	0.5	0.1	1.6
Tripura	56.5	53.0	2.4	1.2	0.5	11.6	0.7	0.5
Meghalaya	29.1	20.4	7.2	3.5	10.6	4.1	2.7	4.3
Assam	32.5	22.9	8.4	6.2	1.3	1.4	0.3	0.0
Gujarat	10.0	0.3	0.6	4.6	1.3	0.8	2.7	1.9
Maharashtra	16.6	3.8	6.6	3.2	8.2	1.2	1.3	0.1
Goa	3.6	2.3	0.7	0.4	0.1	0.3	0.2	0.7
Andhra Pradesh	6.6	4.3	3.5	2.7	2.6	0.2	0.2	0.0
Telangana	9.0	5.6	4.9	2.6	2.1	1.4	0.9	0.6
Karnataka	10.3	8.0	2.4	1.3	1.3	0.4	0.5	0.1
Kerala	3.6	3.0	0.5	0.9	0.1	0.1	0.2	0.1
Tamil Nadu	9.3	7.3	0.7	0.0	0.6	0.1	1.5	0.0
Puducherry	4.9	4.9	0.2	0.1	0.1	0.0	0.0	0.0



**Appendix Table A-4.25:** Percent distribution of ever daily users of smokeless tobacco aged 20-34 by age at use of daily smokeless tobacco initiation by states/UTs, GATS 2 India, 2016-17

State/UT	Age at smokeless tobacco initiation				Total	Mean age
	<15	15 - 17	18 - 19	20-34		
India	12.1	24.1	19.6	44.2	100	18.8
Jammu & Kashmir	7.0*	46.1*	23.0*	23.8*	100	18.4*
Himachal Pradesh	0.0*	22.9*	29.8*	47.3*	100	20.0*
Punjab	2.0	27.7	19.5	50.8	100	20.0
Chandigarh	3.9	23.8	15.1	57.1	100	19.5
Uttarakhand	3.8	14.6	36.2	45.4	100	20.6
Haryana	8.9	35.3	27.0	28.8	100	18.3
Delhi	17.0	29.2	20.1	33.7	100	17.6
Rajasthan	12.5	26.0	19.7	41.8	100	18.4
Uttar Pradesh	12.6	24.4	19.6	43.5	100	19.0
Chhattisgarh	7.5	29.8	26.7	36.0	100	18.6
Madhya Pradesh	13.1	26.4	17.0	43.5	100	18.4
West Bengal	7.6	17.4	16.7	58.2	100	20.0
Jharkhand	6.7	17.0	26.3	50.0	100	19.6
Odisha	22.0	26.1	16.7	35.2	100	17.5
Bihar	6.0	23.9	27.5	42.5	100	18.9
Sikkim	29.0	25.0	24.8	21.3	100	16.1
Arunachal Pradesh	26.0	40.8	15.1	18.1	100	16.2
Nagaland	13.8	32.1	21.3	32.7	100	17.3
Manipur	2.6	11.9	20.6	64.9	100	21.3
Mizoram	8.6	29.8	25.3	36.3	100	18.3
Tripura	7.2	22.1	16.4	54.3	100	19.7
Meghalaya	9.9	25.0	27.3	37.9	100	18.4
Assam	12.1	27.2	19.5	41.2	100	18.8
Gujarat	10.0	24.0	16.7	49.3	100	18.9
Maharashtra	20.1	30.6	16.1	33.2	100	17.4
Goa	25.1*	23.5*	16.7*	34.8*	100	17.3*
Andhra Pradesh	15.5	16.4	14.8	53.3	100	19.0
Telangana	9.4	22.5	1.3	66.7	100	19.4
Karnataka	13.2	6.5	23.1	57.2	100	20.0
Kerala	5.6*	7.5*	20.1*	66.8*	100	21.3*
Tamil Nadu	9.6	19.7	7.4	63.2	100	21.2
Puducherry	27.3*	14.6*	2.1*	56.0*	100	19.4*

Note: \*Based on less than 25 unweighted cases

**Appendix Table A-4.26:** Percentage of all adults aged 15 or above and ever daily users of smokeless tobacco who are former daily users of smokeless tobacco by states/UTs, GATS 2 India, 2016-17

State/UT	Former daily users of smokeless tobacco <sup>1</sup> (Among all adults)	Former daily users of smokeless tobacco <sup>1</sup> (Among ever daily users of smokeless tobacco) <sup>2</sup>
India	1.2	5.8
Jammu & Kashmir	0.5	12.2
Himachal Pradesh	0.6	20.6
Punjab	0.1	2.1
Chandigarh	0.2	3.7
Uttarakhand	1.2	10.8
Haryana	0.3	5.0
Delhi	1.2	14.3
Rajasthan	1.4	10.1
Uttar Pradesh	1.7	6.2
Chhattisgarh	1.2	3.4
Madhya Pradesh	1.9	7.0
West Bengal	0.8	4.1
Jharkhand	0.9	2.6
Odisha	2.1	5.1
Bihar	0.6	2.5
Sikkim	0.8	8.4
Arunachal Pradesh	0.9	2.7
Nagaland	1.6	5.6
Manipur	1.6	4.6
Mizoram	1.3	4.2
Tripura	0.4	1.1
Meghalaya	1.2	7.3
Assam	2.5	6.3
Gujarat	1.1	5.8
Maharashtra	1.0	4.2
Goa	0.4	7.5
Andhra Pradesh	0.5	9.3
Telangana	0.6	5.8
Karnataka	1.3	8.2
Kerala	2.3	38.5
Tamil Nadu	0.5	5.9
Puducherry	0.7	13.4

Notes: 1 Includes current non- users of smokeless tobacco.

2 Also known as quit ratio for daily use of smokeless tobacco

**Appendix Table A-4.27:** Percent distribution of former daily users of smokeless tobacco aged 15 or above by time since quitting smokeless tobacco use according to states/UTs, GATS 2 India, 2016-17

State/UT	Time since quitting smokeless tobacco (in years)				Total
	<1	1 – 4	5 – 9	10+	
India	20.5	33.2	18.4	27.9	100
Jammu & Kashmir	38.6*	5.0*	37.8*	18.6*	100
Himachal Pradesh	9.2*	25.9*	20.4*	44.6*	100
Punjab	35.3*	27.5*	21.0*	16.2*	100
Chandigarh	54.3*	0.0*	0.0*	45.7*	100
Uttarakhand	1.6	29.1	27.7	41.6	100
Haryana	17.3*	64.6*	0.0*	18.1*	100
Delhi	6.5	26.6	45.3	21.6	100
Rajasthan	17.4	43.7	24.2	14.7	100
Uttar Pradesh	21.1	35.8	11.9	31.2	100
Chhattisgarh	8.4	53.5	15.2	23.0	100
Madhya Pradesh	17.5	26.6	18.2	37.7	100
West Bengal	28.3*	20.0*	15.7*	36.0*	100
Jharkhand	38.6*	19.3*	28.4*	13.7*	100
Odisha	21.7	20.4	27.5	30.3	100
Bihar	19.7*	41.0*	6.0*	33.3*	100
Sikkim	29.5*	40.1*	30.4*	0.0*	100
Arunachal Pradesh	17.9*	14.3*	36.3*	31.5*	100
Nagaland	14.4*	35.4*	15.9*	34.3*	100
Manipur	16.0	21.1	32.6	30.3	100
Mizoram	19.7*	31.0*	25.3*	23.9*	100
Tripura	7.8*	5.5*	0.0*	86.7*	100
Meghalaya	8.6*	31.0*	29.4*	31.0*	100
Assam	13.6	43.9	21.1	21.3	100
Gujarat	26.8	52.4	13.5	7.3	100
Maharashtra	12.4	37.0	22.6	28.0	100
Goa	55.1*	19.6*	0.0*	25.3*	100
Andhra Pradesh	5.9*	68.9*	11.2*	13.9*	100
Telangana	0.0*	34.1*	11.3*	54.5*	100
Karnataka	50.8	13.4	9.2	26.6	100
Kerala	16.8	21.3	35.0	27.0	100
Tamil Nadu	21.5*	34.5*	16.4*	27.6*	100
Puducherry	39.8*	33.5*	7.4*	19.3*	100

Note: \*Based on less than 25 unweighted cases.

**Appendix Table A-4.28:** Percentage of adults aged 15 or above who are aware of e-cigarette and percentage of adults aged 15 or above who are current users of e-cigarette by states/UTs, GATS 2 India, 2016-17

State/UT	Aware of e-cigarette	Current users of e-cigarette	
		Among those aware	Among all adults
<b>India</b>	3.03	0.66	0.02
Jammu & Kashmir	6.82	0.00	0.00
Himachal Pradesh	2.43	0.00	0.00
Punjab	3.21	1.24	0.04
Chandigarh	3.78	0.55	0.02
Uttarakhand	3.46	1.71	0.06
Haryana	7.35	2.21	0.16
Delhi	13.31	4.30	0.57
Rajasthan	1.18	0.00	0.00
Uttar Pradesh	2.46	0.00	0.00
Chhattisgarh	1.58	0.00	0.00
Madhya Pradesh	2.55	0.00	0.00
West Bengal	3.66	0.00	0.00
Jharkhand	2.41	2.67	0.06
Odisha	1.85	0.00	0.00
Bihar	1.60	1.05	0.02
Sikkim	1.16	5.81	0.07
Arunachal Pradesh	2.01	0.00	0.00
Nagaland	1.55	0.00	0.00
Manipur	7.96	2.53	0.20
Mizoram	4.25	1.79	0.08
Tripura	1.28	0.00	0.00
Meghalaya	2.84	2.28	0.06
Assam	2.15	1.30	0.03
Gujarat	5.80	0.00	0.00
Maharashtra	2.01	0.00	0.00
Goa	9.98	0.70	0.07
Andhra Pradesh	1.68	0.00	0.00
Telangana	3.21	0.00	0.00
Karnataka	2.67	0.00	0.00
Kerala	7.43	0.00	0.00
Tamil Nadu	2.64	0.81	0.02
Puducherry	5.87	0.38	0.02

**Appendix Table A-4.29:** Percentage of adults aged 15 or above using non-tobacco products by gender according to states/UTs, GATS 2 India, 2016-17

State/UT	Paan masala without tobacco			Betel quid without tobacco			Areca nut		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
India	4.8	6.2	3.2	8.7	8.4	9.0	8.0	8.3	7.7
Jammu & Kashmir	0.2	0.3	0.1	0.3	0.5	0.1	0.2	0.0	0.4
Himachal Pradesh	0.7	1.4	0.0	0.4	0.7	0.0	0.6	1.1	0.1
Punjab	0.5	0.5	0.5	0.3	0.3	0.4	0.4	0.3	0.4
Chandigarh	0.5	0.5	0.6	0.6	0.2	1.0	1.2	1.1	1.3
Uttarakhand	3.1	5.3	0.8	8.6	13.3	3.9	10.8	8.2	13.3
Haryana	1.3	1.3	1.4	0.5	0.4	0.5	1.4	1.7	1.0
Delhi	4.9	5.9	3.8	8.3	10.7	5.6	7.6	9.1	5.9
Rajasthan	3.5	5.8	1.0	1.4	2.2	0.5	6.1	8.1	4.1
Uttar Pradesh	7.0	11.1	2.6	12.8	15.1	10.4	7.6	9.9	5.1
Chhattisgarh	6.1	9.6	2.6	2.1	4.1	0.2	3.4	4.6	2.2
Madhya Pradesh	3.8	5.9	1.6	2.4	3.2	1.6	6.7	8.8	4.4
West Bengal	4.8	3.9	5.8	5.7	5.1	6.3	11.6	9.7	13.6
Jharkhand	7.4	6.7	8.2	1.2	1.7	0.6	2.0	2.7	1.4
Odisha	11.1	11.4	10.9	4.9	4.2	5.5	5.5	4.3	6.7
Bihar	5.2	8.1	2.0	1.5	2.6	0.4	2.3	3.7	0.7
Sikkim	4.7	5.1	4.4	5.4	4.7	6.2	7.0	5.2	9.1
Arunachal Pradesh	11.5	5.9	17.5	13.6	5.9	21.9	5.1	1.1	9.3
Nagaland	8.7	8.4	9.0	9.0	13.5	4.0	2.2	0.4	4.2
Manipur	7.9	8.7	7.1	23.1	24.8	21.4	1.1	1.0	1.3
Mizoram	4.0	4.0	4.1	55.1	57.8	52.4	5.9	7.7	4.0
Tripura	6.4	4.8	8.0	8.3	4.8	11.9	22.6	15.0	30.5
Meghalaya	10.7	11.0	10.4	64.9	59.8	70.0	3.8	2.2	5.4
Assam	10.9	13.6	8.2	46.6	49.0	44.3	11.9	5.5	18.5
Gujarat	3.5	5.2	1.7	4.9	5.9	3.9	4.7	6.8	2.4
Maharashtra	6.6	6.9	6.2	6.7	4.9	8.7	17.0	12.7	21.6
Goa	7.2	7.9	6.4	9.6	6.8	12.5	11.0	7.8	14.3
Andhra Pradesh	0.3	0.4	0.3	4.9	0.7	9.0	5.6	3.2	8.1
Telangana	2.9	4.1	1.8	3.1	3.3	3.0	8.0	9.6	6.5
Karnataka	4.7	5.3	4.1	27.8	15.5	40.3	8.3	6.5	10.2
Kerala	1.2	2.2	0.4	2.1	2.1	2.1	0.9	0.9	0.9
Tamil Nadu	0.2	0.3	0.1	18.6	19.7	17.5	19.1	25.4	12.9
Puducherry	0.8	1.1	0.5	7.7	6.0	9.4	15.1	20.7	9.9

**Appendix Table A-5.1:** Percentage of smokers<sup>1</sup> aged 15 or above who made a quit attempt, visited a health- care provider (HCP), were asked by the HCP if a smoker and were advised to quit by the HCP in the past 12 months by states/UTs, GATS 2 India, 2016-17

State/UT	Made quit attempt <sup>1</sup>	Smoking cessation and health care seeking behavior			
		Visited a HCP <sup>1</sup>	Asked by HCP if a smoker <sup>2</sup>	Advised to quit by HCP <sup>2</sup>	Advised to quit by HCP <sup>3</sup>
India	38.5	50.2	54.5	48.8	89.7
Jammu & Kashmir	24.8	41.7	54.7	50.1	91.5
Himachal Pradesh	41.3	53.9	63.4	53.3	84.2
Punjab	24.6	46.3	43.6	33.9	77.7
Chandigarh	45.0	40.1	39.3	37.3	95.1
Uttarakhand	35.7	62.7	42.5	37.6	88.4
Haryana	37.4	57.5	67.3	55.0	81.7
Delhi	45.7	52.9	30.4	25.6	84.3
Rajasthan	44.3	44.7	60.6	53.0	87.5
Uttar Pradesh	45.7	71.4	39.7	36.5	91.9
Chhattisgarh	30.0	62.0	67.0	48.1	71.8
Madhya Pradesh	42.2	44.4	45.1	43.0	95.3
West Bengal	35.2	41.5	72.9	64.4	88.4
Jharkhand	18.4	23.8	25.8	25.8	100.0*
Odisha	39.6	50.2	26.4	19.7	74.5
Bihar	32.2	49.3	49.0	45.1	91.9
Sikkim	22.8	20.5	43.1	35.2	81.6*
Arunachal Pradesh	26.9	17.7	52.3	42.2	80.7
Nagaland	29.3	25.6	64.5	49.0	75.9
Manipur	30.0	23.9	60.7	50.2	82.8
Mizoram	27.4	25.0	55.2	51.8	93.7
Tripura	33.9	33.9	67.4	64.3	95.5
Meghalaya	20.7	32.7	48.5	41.6	85.8
Assam	39.8	38.9	37.5	26.1	69.7
Gujarat	24.0	21.8	48.8	48.0	98.2
Maharashtra	20.9	58.2	53.0	45.2	85.2
Goa	20.6	56.7	51.5	49.1	95.2
Andhra Pradesh	43.1	50.3	82.9	80.1	96.7
Telangana	53.2	58.3	88.3	88.3	100.0
Karnataka	51.5	52.9	60.6	51.7	85.2
Kerala	48.1	55.4	72.3	60.5	83.7
Tamil Nadu	31.7	34.8	76.4	73.8	96.6
Puducherry	51.9	46.5	54.9	52.1	94.9

**Notes:** 1 Includes current smokers and former smokers who have abstained for less than 12 months.

2 Among current smokers and former smokers who have abstained for less than 12 months, and who visited an HCP during the past 12 months.

3 Among those current smokers and former smokers who have abstained for less than 12 months who visited an HCP during the past 12 months and who were asked by a HCP if smoker.

\*Less than 25 cases

**Appendix Table A-5.2:** Percentage of smokeless tobacco users<sup>1</sup> aged 15 or above who made a quit attempt, visited a health care provider (HCP), were asked by HCP if using smokeless tobacco and were advised to quit by the HCP in the past 12 months by states/UTs, GATS 2 India, 2016-17

State/UT	Smokeless cessation and health care seeking behavior				
	Made quit attempt <sup>1</sup>	Visited a HCP <sup>1</sup>	Asked by HCP if a user <sup>2</sup> of smokeless tobacco	Advised to quit by HCP <sup>2</sup>	Advised to quit by HCP <sup>3</sup>
India	33.2	47.7	37.4	31.7	84.9
Jammu & Kashmir	27.0	41.8	42.5	38.8	91.3*
Himachal Pradesh	38.3	52.6	38.3	27.9	72.8*
Punjab	23.0	38.4	26.9	23.9	89.1*
Chandigarh	33.7	20.8	55.4	54.4	98.2*
Uttarakhand	36.8	62.0	22.3	19.1	85.6
Haryana	45.2	59.4	60.3	46.6	77.3
Delhi	48.0	54.3	15.0	12.3	82.0*
Rajasthan	46.8	42.6	42.0	37.5	89.4
Uttar Pradesh	44.9	65.0	31.1	25.5	82.0
Chhattisgarh	21.4	47.2	37.7	31.3	83.0
Madhya Pradesh	36.4	39.6	35.6	28.9	81.1
West Bengal	26.0	44.9	39.9	35.3	88.5
Jharkhand	18.7	27.7	23.8	19.5	82.0
Odisha	33.9	45.9	21.7	19.7	90.9
Bihar	27.1	36.2	47.9	37.0	77.4
Sikkim	28.3	24.7	31.1	29.5	95.0*
Arunachal Pradesh	25.1	21.8	34.3	30.9	90.1
Nagaland	16.9	18.8	42.5	42.2	99.2
Manipur	19.9	24.3	28.6	20.8	72.8
Mizoram	31.3	27.9	42.8	37.5	87.5
Tripura	27.0	45.2	47.5	38.8	81.6
Meghalaya	32.4	39.8	57.7	53.8	93.3
Assam	30.1	45.8	35.4	30.2	85.2
Gujarat	25.6	21.9	39.6	33.4	84.3
Maharashtra	22.9	53.1	38.3	30.2	78.9
Goa	33.5	56.7	46.5	44.4	95.4
Andhra Pradesh	41.3	35.0	52.9	47.1	89.0
Telangana	35.7	57.4	52.6	49.4	93.9
Karnataka	44.6	45.7	64.7	63.9	98.8
Kerala	51.7	65.9	41.3	36.4	88.2
Tamil Nadu	24.0	51.7	62.4	59.1	94.7
Puducherry	55.6	67.0	49.5	47.9	96.6

**Notes:** 1 Includes current and former users of smokeless tobacco who have abstained for less than 12 months.

2 Among current users of smokeless tobacco and former users of smokeless tobacco who have abstained for less than 12 months, and who visited an HCP during the past 12 months.

3 Among those current users of smokeless tobacco and former users of smokeless tobacco who have abstained for less than 12 months who visited an HCP during the past 12 months and who were asked by a HCP if smoker.

**Appendix Table A-5.3:** Percentage of smokers<sup>1</sup> aged 15 or above who tried to stop smoking in the past 12 months by use of different cessation methods during their last quit attempt according to states/UTs, GATS 2 India, 2016-17

State/UT	Use of cessation method <sup>1</sup>				
	Pharmaco-therapy <sup>2</sup>	Counseling/Advice <sup>3</sup>	Switching to smokeless tobacco <sup>4</sup>	Others <sup>5</sup>	Without any assistance
India	4.1	8.6	4.8	4.1	71.7
Jammu & Kashmir	4.4	7.6	10.2	0.8	54.4
Himachal Pradesh	4.4	28.1	7.1	0.4	94.0
Punjab	3.9	4.2	0.0	4.9	72.8
Chandigarh	2.2	0.4	0.5	0.0	72.8
Uttarakhand	1.5	7.5	7.7	5.2	83.7
Haryana	2.5	3.1	3.7	4.4	81.2
Delhi	8.4	4.4	1.4	0.0	81.7
Rajasthan	2.4	13.8	3.6	6.4	77.5
Uttar Pradesh	2.2	5.0	4.2	5.9	86.6
Chhattisgarh	0.0	18.4	3.3	0.0	87.0
Madhya Pradesh	2.5	4.3	1.4	2.9	76.4
West Bengal	8.3	20.8	8.0	2.9	48.9
Jharkhand	0.0	11.7	8.7	6.0	47.5
Odisha	4.4	10.6	5.5	13.3	56.1
Bihar	0.0	5.8	10.4	1.1	79.4
Sikkim	0.0	5.8	1.3	1.3	7.5
Arunachal Pradesh	6.8	3.4	3.0	13.1	88.7
Nagaland	18.5	10.7	1.4	7.6	51.6
Manipur	0.5	0.0	2.2	9.7	84.3
Mizoram	10.5	2.1	0.9	3.0	89.0
Tripura	5.7	5.8	2.7	1.9	49.4
Meghalaya	4.0	10.5	7.2	1.8	78.6
Assam	2.3	8.2	0.8	5.1	64.4
Gujarat	4.2	3.5	0.0	0.6	86.6
Maharashtra	9.5	3.1	16.1	0.0	72.0
Goa	32.1*	20.3*	8.3	0.0	67.7*
Andhra Pradesh	5.4	1.7	1.0	1.5	73.1
Telangana	1.6	5.7	5.6	1.6	75.4
Karnataka	10.1	19.8	6.6	3.6	41.3
Kerala	2.1	0.7	10.2	8.7	56.0
Tamil Nadu	4.9	8.6	2.7	1.1	68.4
Puducherry	5.8	3.6	0.0	0.0	59.6

**Notes:** 1 Among current smokers and former smokers who have abstained for less than 12 months.

2 Pharmacotherapy includes nicotine replacement therapy and prescription medications.

3 Includes counseling at a cessation clinic and a telephone quit line/helpline.

4 Switching to smokeless tobacco is not a cessation method for smoking; though it is often perceived as such.

5 Includes traditional medicines and other products.

\*Based on less than 25 unweighted cases.



**Appendix Table A-5.4:** Percentage of smokeless tobacco users<sup>1</sup> aged 15 or above who tried to stop use of smokeless tobacco in the past 12 months by use of different cessation methods during their last quit attempt according to states/UTs, GATS 2 India, 2016-17

State/UT	Use of cessation method <sup>1</sup>			
	Pharmacotherapy <sup>2</sup>	Counseling/Advice <sup>3</sup>	Others <sup>4</sup>	Without any assistance
India	3.2	7.3	5.2	74.9
Jammu & Kashmir	7.0	13.7	9.9	57.2
Himachal Pradesh	1.2*	19.7*	1.2*	82.0*
Punjab	0.0	1.5	0.0	67.1
Chandigarh	1.3	0.0	0.0	65.6
Uttarakhand	3.0	3.5	12.3	89.5
Haryana	8.3	9.7	5.1	82.1
Delhi	10.5	3.1	4.8	76.5
Rajasthan	4.8	16.4	3.1	80.8
Uttar Pradesh	2.4	4.6	4.0	86.5
Chhattisgarh	0.0	18.7	6.1	85.4
Madhya Pradesh	3.3	2.7	3.6	77.2
West Bengal	6.2	17.2	10.0	55.0
Jharkhand	0.8	6.6	9.9	74.3
Odisha	3.6	11.6	5.8	62.8
Bihar	0.7	5.9	6.2	82.7
Sikkim	7.5	0.0	2.9	10.6
Arunachal Pradesh	8.8	3.0	1.3	87.7
Nagaland	10.0	1.0	0.6	54.9
Manipur	1.4	0.0	3.1	68.4
Mizoram	3.4	0.6	7.0	89.2
Tripura	2.1	9.1	0.9	47.5
Meghalaya	4.7	7.7	3.3	78.3
Assam	2.3	7.2	1.5	63.0
Gujarat	4.2	3.6	1.0	78.7
Maharashtra	5.3	5.4	8.6	76.3
Goa	9.8	2.2	33.8	45.8
Andhra Pradesh	0.0	5.1	0.5	59.6
Telangana	7.3	12.6	8.1	73.8
Karnataka	3.2	9.0	8.6	45.6
Kerala	0.0	1.0	7.8	62.9
Tamil Nadu	4.6	8.2	3.8	64.3
Puducherry	10.6	0.3	4.1	63.9

**Notes:** 1 Among current users of smokeless tobacco who made a quit attempt in the past 12 months and former users of smokeless tobacco who have abstained for less than 12 months.

2 Pharmacotherapy includes nicotine replacement therapy and prescription medications.

3 Includes counseling at a cessation clinic and a telephone quit line/helpline.

4 Includes traditional medicines and other products.

\*Based on less than 25 unweighted cases.

**Appendix Table A-5.5:** Percent distribution of current smokers aged 15 or above by their interest in quitting smoking according to states/UTs, GATS 2 India, 2016-17

State/UT	Interest in quitting smoking					Total
	Planning to quit within next month	Thinking about quitting within next 12 months	Will quit someday, but not in the next 12 months	Not interested in quitting	Don't know	
India	8.4	13.1	33.9	42.0	2.6	100
Jammu & Kashmir	6.9	10.6	38.6	37.7	6.2	100
Himachal Pradesh	5.7	17.0	47.1	29.4	0.9	100
Punjab	8.9	11.2	27.4	52.5	0.0	100
Chandigarh	17.4	7.0	39.7	35.8	0.0	100
Uttarakhand	13.0	13.1	22.4	51.0	0.5	100
Haryana	10.8	10.8	34.5	39.8	4.0	100
Delhi	6.4	2.6	70.5	20.5	0.0	100
Rajasthan	8.3	11.8	24.7	53.1	2.1	100
Uttar Pradesh	8.7	14.8	32.8	40.2	3.4	100
Chhattisgarh	8.1	15.7	17.0	59.2	0.0	100
Madhya Pradesh	13.9	7.8	26.5	50.6	1.2	100
West Bengal	14.2	20.6	22.4	42.2	0.7	100
Jharkhand	3.8	3.6	29.3	60.5	2.9	100
Odisha	6.3	5.9	57.2	26.2	4.4	100
Bihar	3.6	13.3	23.6	59.5	0.0	100
Sikkim	1.3	4.0	58.9	22.8	13.0	100
Arunachal Pradesh	4.0	6.3	38.4	40.8	10.5	100
Nagaland	3.1	9.9	67.4	12.3	7.3	100
Manipur	1.4	1.7	66.9	24.9	5.1	100
Mizoram	1.5	4.2	47.9	46.1	0.4	100
Tripura	11.4	11.8	15.8	52.7	8.3	100
Meghalaya	4.9	6.4	56.6	22.5	9.6	100
Assam	6.3	14.5	42.1	29.6	7.4	100
Gujarat	5.1	14.5	16.5	61.2	2.7	100
Maharashtra	6.2	14.0	36.5	38.6	4.7	100
Goa	13.7	11.6	25.7	44.8	4.2	100
Andhra Pradesh	5.0	5.5	49.5	39.9	0.0	100
Telangana	9.1	1.2	64.2	21.3	4.3	100
Karnataka	7.4	17.3	41.2	30.6	3.5	100
Kerala	7.7	7.5	64.2	19.9	0.8	100
Tamil Nadu	5.5	21.5	25.9	43.6	3.5	100
Puducherry	10.6	22.5	36.1	30.8	0.0	100

**Appendix Table A-5.6:** Percent distribution of current smokeless tobacco users aged 15 or above by their interest in quitting smokeless tobacco according to states/UTs, GATS 2 India, 2016-17

State/UT	Interest in quitting smokeless tobacco					Total
	Planning to quit within next month	Thinking about quitting within next 12 months	Will quit someday, but not in the next 12 months	Not interested in quitting	Don't know	
India	7.8	11.7	30.2	47.8	2.6	100
Jammu & Kashmir	9.6	8.9	47.5	25.0	9.0	100
Himachal Pradesh	4.3	12.4	52.4	30.1	0.9	100
Punjab	8.4	16.2	25.1	50.3	0.0	100
Chandigarh	15.8	5.6	40.3	37.8	0.5	100
Uttarakhand	12.2	15.3	36.3	35.7	0.5	100
Haryana	13.7	18.0	31.9	33.7	2.7	100
Delhi	4.2	4.7	65.6	25.5	0.0	100
Rajasthan	11.7	9.0	27.8	49.6	1.9	100
Uttar Pradesh	10.1	14.0	28.3	44.5	3.2	100
Chhattisgarh	8.5	8.7	24.2	58.4	0.2	100
Madhya Pradesh	12.5	9.8	30.2	46.4	1.2	100
West Bengal	7.0	16.5	12.3	62.7	1.5	100
Jharkhand	2.4	5.8	19.4	68.8	3.7	100
Odisha	7.0	8.6	40.8	42.1	1.4	100
Bihar	2.0	7.7	34.4	55.1	0.7	100
Sikkim	0.7	2.5	58.9	28.8	9.2	100
Arunachal Pradesh	4.2	7.0	43.7	36.9	8.1	100
Nagaland	4.1	5.9	69.0	9.3	11.7	100
Manipur	1.2	2.0	58.7	33.0	5.1	100
Mizoram	4.6	3.1	63.6	28.2	0.6	100
Tripura	10.7	13.4	17.3	53.1	5.5	100
Meghalaya	3.2	10.7	41.3	29.7	15.2	100
Assam	4.7	12.4	41.6	36.0	5.4	100
Gujarat	4.2	13.3	28.9	48.2	5.3	100
Maharashtra	9.8	15.2	29.3	44.9	0.9	100
Goa	16.4	13.6	32.5	34.4	3.0	100
Andhra Pradesh	9.9	5.5	52.0	32.5	0.0	100
Telangana	5.7	5.5	45.1	32.8	10.9	100
Karnataka	7.9	13.2	27.1	47.3	4.5	100
Kerala	9.1	12.1	46.0	31.2	1.6	100
Tamil Nadu	4.9	10.0	25.3	55.7	4.0	100
Puducherry	9.1	14.6	34.1	41.2	1.0	100

**Appendix Table A-5.7:** Percent distribution of current cigarette smokers, *bidi* smokers and smokeless tobacco users aged 15 or above who made quit attempt in past 12 months by duration of stopping use of tobacco products according to states/UTs, GATS 2 India, 2016-17

State/UT	Duration of stopping use of tobacco products											
	Cigarette				Bidi				Smokeless tobacco			
	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total
India	47.4	30.2	22.4	100	48.7	28.7	22.6	100	49.5	29.2	21.3	100
Jammu & Kashmir	60.0	14.9	25.2	100	53.6	34.3	12.1	100	76.0	14.3	9.6	100
Himachal Pradesh	28.3*	43.4*	28.3*	100	33.6	45.0	21.5	100	39.5*	33.1*	27.4*	100
Punjab	57.4*	18.9*	23.7*	100	56.9	18.0	25.1	100	42.6	43.4	14.0	100
Chandigarh	34.3*	49.2*	16.6*	100	52.9	25.7	21.4	100	64.1	28.0	7.9	100
Uttarakhand	45.5	40.5	14.1	100	54.2	35.2	10.6	100	58.2	32.0	9.8	100
Haryana	50.7*	49.3*	0.0*	100	62.1	21.6	16.3	100	59.4	24.0	16.6	100
Delhi	47.2	25.5	27.3	100	46.3	29.0	24.7	100	51.8	35.9	12.3	100
Rajasthan	41.9	45.9	12.2	100	43.0	31.6	25.4	100	46.1	32.6	21.3	100
Uttar Pradesh	56.5	30.0	13.5	100	57.8	26.3	15.9	100	56.4	27.0	16.6	100
Chhattisgarh	69.9*	25.0*	5.1*	100	72.6*	23.1*	4.3*	100	42.2	41.8	16.0	100
Madhya Pradesh	87.4*	11.5*	1.2*	100	52.6	30.6	16.8	100	56.3	26.7	17.0	100
West Bengal	14.3	35.4	50.3	100	27.3	29.7	43.0	100	26.0	25.5	48.5	100
Jharkhand	38.4*	41.3*	20.3*	100	33.5*	48.0*	18.5*	100	39.3	37.1	23.6	100
Odisha	32.0*	20.3*	47.7*	100	34.6	29.2	36.3	100	39.9	34.4	25.7	100
Bihar	36.9*	40.1*	22.9*	100	54.0	35.5	10.5	100	48.1	33.1	18.8	100

State/UT	Duration of stopping use of tobacco products											
	Cigarette				Bidi				Smokeless tobacco			
	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total	<1 month	1-3 months	>3 months	Total
Sikkim	45.8	44.3	9.9	100	67.6*	21.7*	10.7*	100	70.5	16.6	12.8	100
Arunachal Pradesh	61.4	29.0	9.7	100	71.9	21.5	6.5	100	68.7	27.4	3.9	100
Nagaland	56.5	11.2	32.2	100	53.0	20.7	26.3	100	65.6	20.2	14.1	100
Manipur	65.4	21.0	13.6	100	53.8	28.8	17.5	100	61.8	22.3	15.9	100
Mizoram	62.6	18.6	18.8	100	55.9*	44.1*	0.0*	100	65.3	20.7	14.0	100
Tripura	62.6	20.2	17.2	100	52.9	26.4	20.7	100	59.8	23.0	17.3	100
Meghalaya	58.7	22.9	18.4	100	52.1	25.5	22.4	100	82.6	8.7	8.8	100
Assam	39.4	36.4	24.1	100	51.3	23.7	25.0	100	51.4	31.8	16.8	100
Gujarat	39.6*	37.8*	22.6*	100	35.1	35.2	29.6	100	58.3	17.3	24.5	100
Maharashtra	51.2*	45.4*	3.4*	100	43.5*	47.4*	9.1*	100	38.1	32.0	29.9	100
Goa	92.1*	0.0*	7.9*	100	41.6*	58.4*	0.0*	100	37.2	43.5	19.3	100
Andhra Pradesh	47.8	23.8	28.4	100	55.2	32.3	12.5	100	61.1	28.7	10.3	100
Telangana	40.4	42.7	16.9	100	66.0	27.2	6.7	100	53.9	33.4	12.7	100
Karnataka	47.6	28.3	24.1	100	41.8	26.5	31.7	100	46.3	26.3	27.4	100
Kerala	30.3	28.7	41.0	100	39.9	16.5	43.5	100	48.6	28.1	23.3	100
Tamil Nadu	58.9	21.5	19.6	100	58.1	23.6	18.3	100	54.4	25.7	19.9	100
Puducherry	47.8	25.5	26.7	100	62.8*	22.2*	15.0*	100	49.0	29.9	21.1	100

Note: \*Based on less than 25 unweighted cases.

**Appendix Table A-6.1:** Percentage of adults aged 15 or above who work indoors and are exposed to second hand smoke at work<sup>1</sup> by smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Adults exposed to second hand smoke at work <sup>1</sup>	
	Overall	Non-smoker
India	30.2	26.2
Jammu & Kashmir	57.5	51.8
Himachal Pradesh	20.5	17.4
Punjab	23.3	18.4
Chandigarh	20.0	18.0
Uttarakhand	24.5	18.1
Haryana	52.9	44.1
Delhi	20.4	18.0
Rajasthan	25.3	23.2
Uttar Pradesh	35.7	30.9
Chhattisgarh	21.3	21.9
Madhya Pradesh	38.0	35.5
West Bengal	57.5	51.2
Jharkhand	34.0	29.0
Odisha	16.7	15.0
Bihar	16.8	15.6
Sikkim	21.9	18.4
Arunachal Pradesh	19.7	17.3
Nagaland	26.5	24.1
Manipur	43.3	36.6
Mizoram	44.4	29.5
Tripura	25.0	21.4
Meghalaya	45.7	40.2
Assam	30.8	25.2
Gujarat	20.9	20.3
Maharashtra	20.1	19.7
Goa	17.9	17.3
Andhra Pradesh	43.3	40.0
Telangana	30.9	28.7
Karnataka	24.8	22.9
Kerala	20.8	16.9
Tamil Nadu	20.2	18.0
Puducherry	25.3	23.1

**Note:** 1 In the past 30 days, among those respondents who work outside of the home and who usually work indoors or both indoors and outdoors.

**Appendix Table A-6.2:** Percentage of adults aged 15 or above who reported smoking is allowed at home and are exposed to second hand smoke at home by smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Adults who reported that smoking is allowed in home		Adults exposed to second hand smoke at home	
	Overall	Non-smoker	Overall	Non-smoker
India	48.8	45.5	38.7	35.0
Jammu & Kashmir	78.1	74.1	73.3	68.0
Himachal Pradesh	49.1	44.1	32.9	27.4
Punjab	35.0	30.8	31.4	26.9
Chandigarh	37.7	33.5	28.2	23.8
Uttarakhand	64.0	59.7	62.2	57.8
Haryana	71.5	65.7	65.2	58.1
Delhi	43.2	39.4	38.4	34.2
Rajasthan	52.5	48.7	38.8	36.3
Uttar Pradesh	65.4	61.4	59.1	55.0
Chhattisgarh	40.2	40.1	35.0	34.7
Madhya Pradesh	71.0	68.7	65.0	62.3
West Bengal	74.4	71.7	56.1	51.2
Jharkhand	47.6	44.8	32.0	28.4
Odisha	42.5	41.1	26.4	24.3
Bihar	47.1	45.1	38.5	36.4
Sikkim	47.0	43.0	17.5	12.0
Arunachal Pradesh	55.6	51.4	49.8	45.2
Nagaland	74.0	71.3	67.6	64.2
Manipur	79.6	76.9	75.4	71.7
Mizoram	85.3	79.0	84.1	77.5
Tripura	76.3	70.1	71.0	62.9
Meghalaya	78.6	72.1	76.8	69.9
Assam	49.2	45.7	39.8	35.4
Gujarat	64.1	61.8	37.9	34.3
Maharashtra	33.9	32.8	19.9	18.5
Goa	27.7	25.6	13.9	11.5
Andhra Pradesh	22.7	18.6	15.6	10.8
Telangana	26.5	24.0	16.6	13.9
Karnataka	29.4	26.2	25.2	22.2
Kerala	27.5	25.9	16.0	13.7
Tamil Nadu	13.6	11.1	11.0	9.3
Puducherry	6.3	5.0	5.1	4.0

**Appendix Table A-6.3:** Percentage of adults aged 15 or above exposed to second hand smoke at different public places in the past 30 days by states/UTs, GATS 2 India, 2016-17

State/UT	Adults exposed to second hand smoke at							Adults exposed to second hand smoke at any public place
	Government building	Private office	Health care facility	Restaurant	Public transportation	Night club/bar	Cinema hall/theatre	
India	5.3	3.6	5.6	7.4	13.3	2.1	2.2	25.7
Jammu & Kashmir	11.3	8.3	13.8	9.0	23.7	0.3	0.2	36.4
Himachal Pradesh	3.1	3.2	2.4	4.7	4.7	1.0	0.2	13.7
Punjab	3.5	2.4	3.8	2.0	9.0	0.4	0.3	17.5
Chandigarh	4.5	3.2	3.4	2.4	4.5	0.9	0.7	14.8
Uttarakhand	5.6	3.6	5.7	18.4	15.5	5.5	1.3	37.1
Haryana	10.5	7.9	11.9	6.0	25.4	1.9	3.1	34.2
Delhi	6.7	4.4	8.8	3.6	17.3	0.9	1.0	30.3
Rajasthan	6.3	4.3	8.7	5.3	15.8	3.8	0.9	27.2
Uttar Pradesh	9.3	5.1	9.8	13.2	21.7	3.8	1.4	37.5
Chhattisgarh	8.7	3.3	7.5	5.7	11.2	1.5	1.2	24.4
Madhya Pradesh	6.3	3.2	6.5	8.7	12.6	1.9	0.8	26.6
West Bengal	5.3	5.0	5.3	4.0	14.7	0.6	0.3	24.4
Jharkhand	4.4	2.6	4.2	9.8	13.7	2.1	1.0	24.7
Odisha	3.5	1.6	2.2	3.5	3.4	0.2	1.2	11.3
Bihar	5.7	4.3	4.1	4.2	15.9	0.2	0.5	24.4
Sikkim	4.5	6.4	2.6	14.7	12.7	1.6	4.1	25.5
Arunachal Pradesh	5.9	3.6	2.8	14.5	6.2	0.7	1.2	22.8
Nagaland	10.7	9.6	3.6	8.8	12.4	1.0	0.1	25.7
Manipur	6.7	3.8	1.3	15.5	14.9	5.2	2.0	33.1
Mizoram	2.6	5.7	1.1	10.7	8.6	2.4	0.3	23.2
Tripura	5.5	1.3	1.0	0.7	10.6	0.1	0.0	14.3
Meghalaya	4.1	2.7	4.1	21.3	13.1	1.3	0.3	29.1
Assam	2.5	1.4	1.7	8.2	6.7	0.5	0.5	16.1
Gujarat	3.3	3.6	3.0	2.5	14.5	0.7	0.3	21.6
Maharashtra	3.8	2.9	5.2	5.4	12.1	1.9	2.4	22.9
Goa	2.4	2.4	2.8	5.1	6.6	1.7	0.6	16.3
Andhra Pradesh	1.7	1.3	1.9	10.4	7.6	4.2	7.7	22.4
Telangana	3.9	3.2	4.0	11.2	6.2	2.9	7.8	24.0
Karnataka	3.4	2.6	4.6	14.0	9.6	3.2	7.5	28.7
Kerala	1.8	2.0	3.4	6.6	5.1	1.2	4.3	17.1
Tamil Nadu	2.7	2.1	2.4	3.3	5.8	3.4	4.4	18.7
Puducherry	4.5	5.9	3.9	6.9	7.7	8.9	6.9	26.3



**Appendix Table A-6.4:** Percentage of pregnant women exposed to second hand smoke at home and at any public place by states/UTs, GATS 2 India, 2016-17

State/UT	Exposed to second hand smoke	
	At home (in one month)	At any public place <sup>1</sup>
India	37.7	25.9
Jammu & Kashmir	60.4	52.6
Himachal Pradesh	26.8	28.4
Punjab	18.2	29.1
Chandigarh	20.7	7.3
Uttarakhand	43.2	23.3
Haryana	53.8	53.8
Delhi	29.4	33.3
Rajasthan	35.9	18.5
Uttar Pradesh	46.5	26.4
Chhattisgarh	59.3	35.5
Madhya Pradesh	53.0	49.2
West Bengal	51.5	29.1
Jharkhand	43.3	47.7
Odisha	19.3*	8.4*
Bihar	32.9	16.9
Sikkim	6.9	33.3
Arunachal Pradesh	62.3	25.9
Nagaland	40.1	55.9
Manipur	70.1	28.9
Mizoram	75.7	10.4
Tripura	69.1*	5.0*
Meghalaya	77.1	52.1
Assam	45.4	8.9
Gujarat	59.2	31.7
Maharashtra	13.5	14.6
Goa	9.6	25.0
Andhra Pradesh	30.5*	25.4*
Telangana	3.5	21.5
Karnataka	19.8	31.5
Kerala	14.1	12.7
Tamil Nadu	4.0	6.7
Puducherry	0.0	4.0

**Note:** 1 Any of seven public places including government office/building, health care facility, restaurant/public eating place, public transportation, private office/workplace, night club/bar and cinema hall/theatre.

\*Based on less than 25 unweighted cases.

**Appendix Table A-71:** Percent distribution of current cigarette<sup>1</sup> smokers aged 15 or above by source of last purchase of cigarette according to states/UTs, GATS 2 India, 2016-17

State/UT	Source of last purchase				Total
	Store	Street vendor	Kiosk/pan shop	Others <sup>2</sup>	
India	50.8	9.2	38.7	1.4	100
Jammu & Kashmir	86.5	5.6	6.2	1.8	100
Himachal Pradesh	92.0	0.0	1.7	6.2	100
Punjab	85.2	0.0	14.8	0.0	100
Chandigarh	40.9	14.1	45.0	0.0	100
Uttarakhand	50.9	0.0	49.1	0.0	100
Haryana	73.0	5.5	13.6	7.9	100
Delhi	35.7	21.3	41.9	1.1	100
Rajasthan	97.5	0.0	2.5	0.0	100
Uttar Pradesh	39.8	0.0	58.1	2.1	100
Chhattisgarh	71.8*	2.5*	25.7*	0.0*	100
Madhya Pradesh	32.9	0.0	67.1	0.0	100
West Bengal	22.3	15.9	59.0	2.7	100
Jharkhand	56.5	10.3	32.2	0.9	100
Odisha	14.4	2.7	82.9	0.0	100
Bihar	67.9	8.3	23.8	0.0	100
Sikkim	33.9	2.5	63.1	0.4	100
Arunachal Pradesh	31.0	44.7	24.0	0.3	100
Nagaland	13.4	44.5	42.2	0.0	100
Manipur	20.7	1.3	76.6	1.3	100
Mizoram	93.9	6.1	0.0	0.0	100
Tripura	33.6	64.9	1.5	0.0	100
Meghalaya	20.6	30.2	38.1	11.1	100
Assam	51.2	1.8	47.0	0.0	100
Gujarat	40.7*	0.0*	59.3*	0.0*	100
Maharashtra	27.9	5.9	66.2	0.0	100
Goa	64.2	2.0	27.1	6.6	100
Andhra Pradesh	62.3	34.7	3.0	0.0	100
Telangana	70.4	16.3	13.4	0.0	100
Karnataka	33.3	11.9	52.2	2.6	100
Kerala	73.8	8.9	15.6	1.7	100
Tamil Nadu	80.7	5.9	13.4	0.0	100
Puducherry	66.0	31.7	1.4	0.9	100

Note: 1 Manufactured cigarette.

2 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

**Appendix Table A-7.2:** Percent distribution of current *bidi* smokers aged 15 or above by source of last purchase of *bidi* according to states/UTs, GATS 2 India, 2016-17

State/UT	Source of last purchase				Total
	Store	Street vendor	Kiosk/ <i>paan</i> shop	Others <sup>1</sup>	
India	60.4	7.0	31.8	0.7	100
Jammu & Kashmir	98.3	1.7	0.0	0.0	100
Himachal Pradesh	97.5	0.5	1.8	0.2	100
Punjab	89.1	7.0	4.0	0.0	100
Chandigarh	61.5	12.6	24.8	1.1	100
Uttarakhand	62.1	0.0	36.5	1.4	100
Haryana	71.4	5.2	23.2	0.2	100
Delhi	43.1	14.7	39.6	2.6	100
Rajasthan	98.0	0.0	0.8	1.2	100
Uttar Pradesh	55.5	1.4	42.9	0.1	100
Chhattisgarh	79.8	0.6	19.7	0.0	100
Madhya Pradesh	74.1	8.5	17.0	0.4	100
West Bengal	28.6	11.5	58.1	1.8	100
Jharkhand	82.7	1.9	15.4	0.0	100
Odisha	19.2	6.7	73.0	1.0	100
Bihar	75.3	0.0	22.7	2.0	100
Sikkim	50.5	0.0	49.5	0.0	100
Arunachal Pradesh	51.0	32.4	15.9	0.8	100
Nagaland	27.9	10.4	61.8	0.0	100
Manipur	24.3	2.9	69.4	3.4	100
Mizoram	75.1*	0.0*	24.9*	0.0*	100
Tripura	36.9	62.5	0.6	0.0	100
Meghalaya	9.2	28.8	55.5	6.4	100
Assam	64.8	1.9	33.2	0.0	100
Gujarat	58.1	0.7	40.4	0.8	100
Maharashtra	74.5	3.1	22.4	0.0	100
Goa	84.2	11.3	4.5	0.0	100
Andhra Pradesh	67.7	31.5	0.8	0.0	100
Telangana	64.9	25.9	7.9	1.3	100
Karnataka	40.7	8.8	50.2	0.3	100
Kerala	87.0	10.8	1.4	0.8	100
Tamil Nadu	67.7	11.4	20.9	0.0	100
Puducherry	58.5	39.5	2.0	0.0	100

Note: 1 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

**Appendix Table A-7.3:** Percent distribution of current smokeless tobacco users aged 15 or above by source of last purchase of smokeless tobacco according to states/UTs, GATS 2 India, 2016-17

State/UT	Source of purchase				Total
	Store	Street vendor	Kiosk/paan shop	Others <sup>1</sup>	
India	55.6	6.8	35.8	1.7	100
Jammu & Kashmir	95.4	1.8	1.1	1.7	100
Himachal Pradesh	95.9	0.9	3.2	0.0	100
Punjab	87.9	5.5	6.6	0.0	100
Chandigarh	44.7	15.4	40.0	0.0	100
Uttarakhand	50.9	0.3	48.8	0.0	100
Haryana	66.6	4.3	26.5	2.6	100
Delhi	38.0	23.4	38.0	0.6	100
Rajasthan	97.7	0.2	1.5	0.6	100
Uttar Pradesh	49.6	0.5	48.9	0.9	100
Chhattisgarh	83.2	1.6	12.3	2.9	100
Madhya Pradesh	63.6	13.4	21.2	1.8	100
West Bengal	22.2	11.7	61.5	4.6	100
Jharkhand	65.0	10.2	20.5	4.3	100
Odisha	30.8	4.9	62.9	1.4	100
Bihar	68.8	0.2	29.7	1.3	100
Sikkim	33.2	4.2	62.6	0.0	100
Arunachal Pradesh	49.9	29.4	16.7	4.0	100
Nagaland	14.3	12.3	71.5	1.9	100
Manipur	30.4	1.4	67.3	1.0	100
Mizoram	91.4	8.3	0.0	0.2	100
Tripura	37.4	61.2	1.4	0.0	100
Meghalaya	40.5	20.4	31.2	7.8	100
Assam	67.8	3.4	25.8	3.0	100
Gujarat	48.0	2.3	48.7	1.0	100
Maharashtra	59.9	5.6	33.9	0.6	100
Goa	80.6	10.2	9.1	0.0	100
Andhra Pradesh	35.4	60.1	2.0	2.5	100
Telangana	74.2	16.2	5.3	4.3	100
Karnataka	58.2	4.3	36.2	1.3	100
Kerala	61.0	22.5	13.0	3.4	100
Tamil Nadu	58.3	24.8	15.1	1.8	100
Puducherry	57.6	34.8	7.6	0.0	100

Note: 1 Includes vending machine, military store, duty free shop, outside country purchase, from other person or any other place.

**Appendix Table A-7.4:** Average tobacco expenditure (in Rs) incurred in the last purchase of manufactured cigarette by current cigarette smokers, of *bidi* by current *bidi* smokers and of smokeless tobacco by smokeless tobacco users according to states/UTs, GATS 2 India, 2016-17

State/UT	Tobacco expenditure in the last purchase (in Rs)		
	Cigarette	<i>Bidi</i>	Smokeless tobacco
India	29.96	12.50	42.6
Jammu & Kashmir	82.73	11.90	14.5
Himachal Pradesh	18.73	11.41	31.0
Punjab	29.45	9.96	18.8
Chandigarh	30.36	9.47	9.2
Uttarakhand	17.28	11.71	8.4
Haryana	70.39	13.61	151.7
Delhi	25.34	12.23	19.6
Rajasthan	22.29	25.87	19.1
Uttar Pradesh	12.94	7.13	74.4
Chhattisgarh	22.52*	9.81	25.9
Madhya Pradesh	11.22	9.85	38.2
West Bengal	30.99	9.38	18.4
Jharkhand	18.99	4.65	84.9
Odisha	17.46	6.10	46.2
Bihar	14.97	11.00	9.7
Sikkim	45.82	17.73	51.7
Arunachal Pradesh	36.52	17.27	120.8
Nagaland	65.54	30.83	238.9
Manipur	18.60	11.80	14.8
Mizoram	36.18	41.61*	38.3
Tripura	28.67	11.91	78.1
Meghalaya	31.59	12.89	63.4
Assam	13.90	8.27	19.0
Gujarat	29.95*	21.58	38.0
Maharashtra	38.17	11.22	27.4
Goa	48.75	18.80	45.9
Andhra Pradesh	37.20	21.01	21.5
Telangana	44.46	16.96	50.6
Karnataka	37.38	13.92	55.6
Kerala	26.32	12.52	14.6
Tamil Nadu	44.75	22.33	22.0
Puducherry	52.67	13.23	11.1

Note: \*Based on less than 25 unweighted cases.

**Appendix Table A-7.5:** Average monthly expenditure (in Rs) incurred on manufactured cigarette and *bidi* by daily smokers according to states/UTs, GATS 2 India, 2016-17

State/UT	Monthly expenditure incurred on manufactured cigarette and <i>bidi</i> by daily smokers (in Rs)	
	Cigarette	<i>Bidi</i>
India	1192.45	284.12
Jammu & Kashmir	2622.46	197.04
Himachal Pradesh	610.84*	245.85
Punjab	2616.05*	131.93
Chandigarh	1290.3	139.41
Uttarakhand	515.54	193.92
Haryana	1349.42*	184.18
Delhi	1528.6	560.01
Rajasthan	835.05*	423.38
Uttar Pradesh	727.91	159.63
Chhattisgarh	473.23*	217.79
Madhya Pradesh	467.80*	117.47
West Bengal	970.38	390.46
Jharkhand	659.49	135.06
Odisha	625.92*	200.25
Bihar	690.96*	106.46
Sikkim	1349.05	508.26
Arunachal Pradesh	1240.7	330.58
Nagaland	1473.9	265.53
Manipur	351.21	135.81
Mizoram	712.61	256.14*
Tripura	803.32	316.64
Meghalaya	1191.97	181.38
Assam	799.41	786.62
Gujarat	755.59*	447.66
Maharashtra	1028.33*	255.28
Goa	530.89*	186.57*
Andhra Pradesh	1217.33	158.16
Telangana	1005.24	212.94
Karnataka	1802.2	352.92
Kerala	1166.02	351.01
Tamil Nadu	1343.76	522.74
Puducherry	1358.56	1071.19

**Note:** Extreme values (in Rs) for average monthly expenditure of cigarettes and *bidi* have been excluded from the analysis.

\* Based on less than 25 unweighted cases.

**Appendix Table A-8.1:** Percentage of adults aged 15 or above who noticed anti-tobacco information at any location during the last 30 days by smoking status and percentage of adults aged 15 or above who noticed anti-smokeless tobacco information at any location during the last 30 days by smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Anti-smoking information Smoking Status			Anti-smokeless tobacco information Smokeless tobacco status		
	Overall	Current smoker	Current non-smoker	Overall	Current user of smokeless tobacco	Current non-user of smokeless tobacco
<b>India</b>	76.0	75.0	76.1	67.3	62.9	68.5
Jammu & Kashmir	73.0	73.6	72.9	56.3	58.9	56.1
Himachal Pradesh	88.2	86.1	88.5	83.2	80.3	83.3
Punjab	85.5	90.0	85.2	74.2	76.1	74.0
Chandigarh	94.1	95.2	94.0	84.9	83.0	85.0
Uttarakhand	85.5	80.0	86.7	78.8	82.8	78.3
Haryana	80.5	81.8	80.1	73.2	82.4	72.5
Delhi	88.9	80.8	90.0	76.7	69.4	77.3
Rajasthan	64.3	63.1	64.5	59.9	67.3	58.7
Uttar Pradesh	69.2	66.3	69.6	64.6	63.9	64.8
Chhattisgarh	80.1	90.4	79.5	73.7	66.5	77.7
Madhya Pradesh	68.2	71.5	67.8	62.4	56.3	64.8
West Bengal	79.7	86.9	78.2	65.4	60.1	66.8
Jharkhand	59.3	64.8	58.7	53.9	53.0	54.4
Odisha	64.8	64.2	64.9	54.3	51.3	56.5
Bihar	59.7	48.4	60.3	54.7	63.4	52.1
Sikkim	77.8	91.5	76.1	62.9	71.0	62.0
Arunachal Pradesh	70.3	72.7	69.6	65.9	71.5	62.2
Nagaland	67.1	60.0	68.2	57.4	56.0	58.2
Manipur	76.4	80.4	75.4	58.7	59.6	57.9
Mizoram	79.8	78.2	80.7	37.7	36.0	38.6
Tripura	80.7	81.0	80.6	68.6	67.9	69.2
Meghalaya	76.9	69.2	80.5	50.7	49.3	51.1
Assam	57.7	63.4	56.9	46.1	49.4	43.7
Gujarat	65.9	60.4	66.3	54.5	57.1	53.8
Maharashtra	88.5	76.2	89.0	80.7	73.5	83.1
Goa	94.6	91.6	94.8	84.8	63.3	86.3
Andhra Pradesh	89.7	81.5	91.1	84.1	73.1	84.9
Telangana	87.8	82.5	88.3	78.4	72.0	79.2
Karnataka	88.3	88.0	88.3	79.2	70.5	80.9
Kerala	91.9	90.0	92.1	74.3	63.8	74.9
Tamil Nadu	90.1	94.3	89.6	73.9	69.6	74.4
Puducherry	95.4	91.9	95.6	86.4	69.9	87.2

**Appendix Table A-8.2:** Percentage of current cigarette smokers aged 15 or above who noticed health warning on cigarette package and who thought of quitting because of warning label on cigarette package during the past 30 days and percentage of current *bidi* smokers aged 15 or above who noticed health warning on *bidi* package and who thought of quitting because of warning label on *bidi* package during the past 30 days and percentage of current smokeless tobacco aged 15 or above who noticed health warning on smokeless tobacco package and who thought of quitting because of warning label on smokeless tobacco package during the past 30 days according to states/UTs, GATS 2 India, 2016-17

State/UT	Cigarette			<i>Bidi</i>			Smokeless tobacco		
	Noticed health warning on cigarette packages	Thought of quitting because of warning label on cigarette packages	Thought of quitting because of warning label on cigarette packages (among those who noticed health warning on cigarette packages)	Noticed health warning on <i>bidi</i> packages	Thought of quitting because of warning label on <i>bidi</i> packages	Thought of quitting because of warning label on <i>bidi</i> packages (among those who noticed health warning on <i>bidi</i> packages)	Noticed health warning on tobacco packages	Thought of quitting because of warning label on tobacco packages	Thought of quitting because of warning label on tobacco packages (among those who noticed health warning on tobacco packages)
<b>India</b>	83.0	61.9	74.6	78.4	53.8	68.6	71.6	46.2	64.5
Jammu & Kashmir	90.2	55.4	61.4	48.1	25.4	52.7	55.7	26.2	47.1
Himachal Pradesh	94.1	79.9	84.9	91.6	74.7	81.6	77.3	66.3	85.8
Punjab	81.6	63.9	78.3	90.8	58.2	64.1	81.5	56.0	68.7
Chandigarh	94.9	64.1	67.5	91.5	64.2	70.2	79.3	50.7	63.9
Uttarakhand	86.8	67.4	77.6	89.7	65.8	73.3	88.9	64.0	71.9
Haryana	92.7	40.4	43.6	86.3	57.2	66.3	85.0	64.6	76.0
Delhi	86.9	61.5	70.7	79.9	48.9	61.2	84.7	55.3	65.2
Rajasthan	69.9	50.4	72.1	75.1	47.4	63.1	83.4	60.5	72.5
Uttar Pradesh	80.7	54.0	66.9	82.5	57.7	70.0	76.9	54.5	70.8
Chhattisgarh	92.4	55.0	59.5	89.4	77.8	87.0	78.9	57.9	73.4
Madhya Pradesh	89.7	86.0	95.9	72.9	53.6	73.6	67.5	49.6	73.4
West Bengal	93.4	73.1	78.3	78.0	58.4	74.8	62.3	37.1	59.4
Jharkhand	74.2	51.0	68.7	27.1	8.6	31.8	41.3	26.6	64.5
Odisha	85.3	52.1	61.0	51.7	28.8	55.7	59.7	34.6	57.9



State/UT	Cigarette			Bidi			Smokeless tobacco		
	Noticed health warning on cigarette packages	Thought of quitting because of warning label on cigarette packages	Thought of quitting because of warning label on cigarette packages (among those who noticed health warning on cigarette packages)	Noticed health warning on bidi packages	Thought of quitting because of warning label on bidi packages	Thought of quitting because of warning label on bidi packages (among those who noticed health warning on bidi packages)	Noticed health warning on tobacco packages	Thought of quitting because of warning label on tobacco packages	Thought of quitting because of warning label on tobacco packages (among those who noticed health warning on tobacco packages)
Bihar	59.3	48.5	81.9	63.1	51.3	81.3	75.1	49.6	66.0
Sikkim	87.2	67.0	76.9	80.7	50.1	62.1	80.4	45.3	56.3
Arunachal Pradesh	74.9	55.7	74.3	67.5	49.9	73.9	61.5	44.3	72.1
Nagaland	94.3	33.9	36.0	92.0	45.8	49.8	77.9	27.8	35.7
Manipur	83.8	63.4	75.7	66.4	47.4	71.3	89.6	61.4	68.6
Mizoram	76.3	17.2	22.5	38.7	0.0	0.0	33.3	26.0	78.0
Tripura	84.2	60.5	71.9	78.0	51.1	65.5	81.1	48.2	59.4
Meghalaya	86.0	52.9	61.5	73.4	45.4	61.9	77.9	45.7	58.7
Assam	87.2	68.9	79.0	85.7	58.6	68.4	63.0	48.1	76.3
Gujarat	52.6	37.8	72.0	76.4	23.8	31.2	74.1	31.1	42.2
Maharashtra	77.8	56.5	72.6	84.8	35.5	41.8	83.3	40.2	48.2
Goa	81.8	65.6	80.2	66.4	28.6	43.1	67.9	37.3	55.0
Andhra Pradesh	75.0	68.9	91.8	95.6	82.8	86.6	73.5	56.8	77.3
Telangana	66.0	57.6	87.2	81.2	61.3	75.5	73.3	50.2	68.4
Karnataka	83.3	73.8	88.6	86.5	63.7	73.6	68.5	47.4	69.2
Kerala	95.5	59.8	62.6	83.0	32.6	39.3	39.0	22.1	56.8
Tamil Nadu	94.0	76.1	80.9	72.7	59.5	82.0	66.6	42.5	63.9
Puducherry	98.2	85.7	87.3	72.9	54.0	74.1	55.0	36.3	65.9

**Appendix Table A-8.3:** Percentage of adults aged 15 or above who noticed smoking tobacco marketing at any place during the last 30 days by smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Overall			Current smoker			Current non-smoker		
	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>
India	19.2	8.0	22.3	23.7	14.4	30.0	18.7	7.2	21.3
Jammu & Kashmir	24.1	12.1	29.2	20.7	18.8	27.1	25.0	10.4	29.7
Himachal Pradesh	15.3	7.3	19.8	16.0	9.4	21.8	15.1	7.0	19.4
Punjab	15.3	8.5	19.1	24.2	21.8	38.0	14.6	7.5	17.6
Chandigarh	9.4	4.8	12.8	8.4	8.2	14.1	9.5	4.4	12.6
Uttarakhand	22.7	10.8	28.7	26.5	17.9	36.0	21.8	9.2	27.1
Haryana	22.4	18.4	30.6	29.5	40.3	49.2	20.6	13.0	26.0
Delhi	37.6	21.5	42.8	42.1	28.1	51.6	37.1	20.6	41.7
Rajasthan	15.4	6.6	18.7	10.9	12.3	17.2	16.1	5.7	18.9
Uttar Pradesh	33.1	19.0	39.5	33.9	26.1	43.7	32.9	17.8	38.8
Chhattisgarh	17.4	2.8	18.2	13.8	2.3	14.3	17.6	2.9	18.4
Madhya Pradesh	3.6	4.1	7.1	2.2	7.8	9.5	3.8	3.7	6.8
West Bengal	37.0	10.4	39.8	43.7	14.9	48.9	35.6	9.5	38.0
Jharkhand	15.2	3.3	16.8	16.2	3.2	17.6	15.1	3.3	16.7
Odisha	36.4	10.4	37.4	29.4	14.6	30.4	36.9	10.0	38.0
Bihar	4.6	2.7	6.0	4.0	4.0	7.7	4.6	2.6	5.9

State/UT	Overall			Current smoker			Current non-smoker		
	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>	Noticed any advertisement	Noticed any promotion <sup>1</sup>	Noticed any advertisement or promotion <sup>1</sup>
Sikkim	16.3	2.4	17.6	19.3	3.3	21.6	15.9	2.3	17.2
Arunachal Pradesh	35.5	8.5	38.3	49.0	20.6	56.8	31.5	4.9	32.8
Nagaland	17.5	9.1	25.9	27.0	12.9	37.6	16.0	8.6	24.1
Manipur	1.4	8.5	9.7	0.5	11.2	11.7	1.6	7.7	9.2
Mizoram	11.8	9.9	21.4	16.1	15.2	30.6	9.5	7.2	16.5
Tripura	25.0	13.1	30.4	32.6	21.5	40.6	22.1	9.9	26.5
Meghalaya	4.5	9.3	11.9	8.2	16.3	20.8	2.8	6.1	7.8
Assam	23.5	6.8	25.8	22.0	12.3	26.9	23.7	6.0	25.6
Gujarat	29.6	9.6	31.5	32.6	9.3	36.5	29.3	9.6	31.1
Maharashtra	11.6	3.2	13.7	17.2	8.9	21.3	11.4	3.0	13.4
Goa	30.0	9.7	35.5	22.9	20.5	36.8	30.3	9.3	35.4
Andhra Pradesh	1.9	0.5	2.4	3.6	1.5	5.1	1.6	0.3	2.0
Telangana	9.8	1.6	10.9	12.6	3.2	15.4	9.6	1.5	10.5
Karnataka	25.8	4.4	27.3	40.0	9.4	41.6	24.4	3.9	26.0
Kerala	6.2	4.9	10.3	7.0	5.0	10.4	6.1	4.9	10.3
Tamil Nadu	5.2	1.7	6.1	10.8	3.6	13.8	4.5	1.4	5.2
Puducherry	10.7	0.7	11.0	10.7	0.0	10.7	10.7	0.7	11.0

Note: 1 Promotion of cigarette or bidi.

**Appendix Table A-8.4:** Percentage of adults aged 15 or above who noticed smokeless tobacco products marketing at any place during the last 30 days by smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Overall			Current user of smokeless tobacco			Current non-user of smokeless tobacco		
	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion
India	18.3	5.7	20.5	21.4	8.0	24.3	17.5	5.1	19.5
Jammu & Kashmir	18.0	6.7	20.4	10.5	6.2	15.6	18.4	6.7	20.7
Himachal Pradesh	13.2	2.7	15.0	18.2	2.3	20.4	13.1	2.7	14.8
Punjab	15.4	4.5	17.1	16.7	7.9	21.6	15.3	4.2	16.8
Chandigarh	9.2	2.9	11.2	10.0	2.2	12.2	9.2	3.0	11.1
Uttarakhand	27.5	9.6	32.3	33.3	15.4	40.0	26.7	8.7	31.2
Haryana	21.8	10.7	24.5	36.6	27.5	40.6	20.8	9.5	23.4
Delhi	30.8	12.0	33.8	23.2	11.0	27.8	31.5	12.1	34.4
Rajasthan	17.4	3.7	18.9	21.7	6.4	24.2	16.7	3.3	18.0
Uttar Pradesh	33.9	11.9	36.7	36.2	13.9	38.9	33.0	11.1	35.9
Chhattisgarh	16.4	1.7	17.2	13.8	1.9	14.2	17.9	1.6	18.9
Madhya Pradesh	3.7	9.6	12.2	4.8	11.3	15.0	3.3	9.0	11.1
West Bengal	35.9	4.1	36.6	38.7	3.5	39.5	35.1	4.2	35.8
Jharkhand	15.4	3.0	16.4	16.6	3.8	17.5	14.8	2.5	15.7
Odisha	38.6	9.3	39.8	34.7	11.5	36.1	41.6	7.7	42.6
Bihar	4.9	2.5	6.4	4.3	3.2	5.7	5.1	2.3	6.6

State/UT	Overall			Current user of smokeless tobacco			Current non-user of smokeless tobacco		
	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion	Noticed any advertisement	Noticed any promotion	Noticed any advertisement or promotion
Sikkim	12.2	1.5	13.6	5.8	0.3	6.1	12.9	1.7	14.5
Arunachal Pradesh	31.1	5.3	32.8	44.2	10.0	47.1	22.6	2.2	23.5
Nagaland	15.4	7.6	22.8	15.4	13.5	28.6	15.4	3.8	19.0
Manipur	0.8	3.2	3.9	0.6	3.8	4.4	1.0	2.7	3.5
Mizoram	8.1	4.0	11.8	5.2	4.8	9.6	9.5	3.5	12.9
Tripura	19.7	4.4	22.8	20.7	7.1	26.1	18.8	1.9	19.6
Meghalaya	2.7	5.5	7.7	6.6	8.9	13.2	1.7	4.6	6.2
Assam	21.2	5.7	24.2	18.3	7.8	22.6	23.3	4.2	25.4
Gujarat	28.5	12.0	32.9	30.8	15.4	38.5	28.0	11.3	31.6
Maharashtra	8.4	2.6	10.1	8.8	4.0	10.7	8.3	2.2	9.9
Goa	24.6	5.1	28.2	21.5	14.6	30.9	24.8	4.5	28.0
Andhra Pradesh	1.1	0.2	1.3	4.3	0.0	4.3	0.9	0.2	1.1
Telangana	8.7	1.1	9.5	10.4	2.0	11.3	8.6	1.0	9.3
Karnataka	22.2	3.9	23.3	23.6	5.5	24.9	21.9	3.6	23.0
Kerala	1.6	1.1	2.7	4.4	0.2	4.7	1.4	1.2	2.5
Tamil Nadu	3.5	0.9	4.2	2.9	0.1	3.0	3.6	1.0	4.3
Puducherry	9.9	0.4	10.2	0.9	0.0	0.9	10.4	0.5	10.6

**Appendix Table A-9.1:** Percentage of adults aged 15 or above who believe that smoking causes serious illness, stroke, heart attack and lung cancer by smoking status according to states/UTs, GATS 2 India, 2016-17

State/UT	Adults who believe that smoking causes					Adults who believe that smoking causes					Adults who believe that smoking causes				
	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness
	Overall	Current smoker	Current non-smoker	Current smoker	Current non-smoker	Current smoker	Current non-smoker	Current smoker	Current non-smoker	Current smoker	Current non-smoker	Current smoker	Current non-smoker	Current smoker	Current non-smoker
India	92.4	65.8	76.7	93.5	92.3	91.3	62.9	74.7	91.8	92.6	66.1	76.9	93.7	92.3	92.3
Jammu & Kashmir	91.5	83.8	90.3	96.9	97.5	94.4	83.4	87.8	96.3	95.9	83.9	90.9	97.1	98.0	98.0
Himachal Pradesh	95.6	78.0	85.5	96.7	96.8	96.5	67.9	81.8	95.0	95.7	79.7	86.1	97.0	97.0	97.0
Punjab	94.6	65.9	75.0	97.0	97.6	81.9	61.6	69.2	96.0	99.2	66.3	75.5	97.1	97.4	97.4
Chandigarh	94.1	78.7	88.4	99.3	97.8	90.4	76.6	91.5	100.0	98.3	78.9	88.0	99.2	97.8	97.8
Uttarakhand	98.3	49.4	74.0	97.5	97.1	98.2	49.4	71.5	95.9	95.5	49.4	74.5	97.9	97.4	97.4
Haryana	92.6	68.8	77.2	95.8	97.6	90.8	65.7	71.2	93.7	98.2	69.5	78.7	96.3	97.5	97.5
Delhi	92.9	48.7	78.7	96.9	96.8	92.9	46.4	81.4	97.0	96.1	49.0	78.4	96.9	96.9	96.9
Rajasthan	94.6	64.3	72.9	91.1	91.8	92.5	60.3	67.2	84.5	86.0	64.9	73.8	92.1	92.7	92.7
Uttar Pradesh	95.4	50.5	66.0	95.2	93.7	95.5	49.1	64.5	92.3	94.1	50.7	66.3	95.7	93.6	93.6
Chhattisgarh	96.4	64.7	74.2	96.0	95.4	97.5	65.1	70.3	98.7	98.3	64.7	74.4	95.9	95.2	95.2
Madhya Pradesh	88.6	74.9	79.3	93.5	94.8	82.9	68.8	74.7	87.8	93.4	75.6	79.8	94.1	94.9	94.9
West Bengal	96.3	80.8	85.3	95.9	93.7	97.4	84.4	88.1	97.7	97.3	80.1	84.7	95.5	93.0	93.0
Jharkhand	77.4	58.0	68.6	86.2	91.1	70.9	48.5	63.8	88.0	96.3	59.2	69.1	85.9	90.4	90.4
Odisha	89.2	56.1	66.9	85.8	78.4	90.8	56.8	69.1	80.5	84.2	56.1	66.8	86.2	78.0	78.0
Bihar	96.8	62.5	70.3	93.9	94.3	95.4	56.5	67.6	93.0	96.6	62.8	70.4	94.0	94.2	94.2

State/UT	Adults who believe that smoking causes					Adults who believe that smoking causes					Adults who believe that smoking causes				
	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis	Serious illness	Stroke	Heart attack	Lung cancer	Tuber- culosis
	Overall					Current smoker					Current non-smoker				
Sikkim	77.6	74.0	81.2	95.2	94.4	74.0	69.9	72.6	90.5	90.8	78.0	74.5	82.3	95.8	94.8
Arunachal Pradesh	90.5	67.3	70.7	91.4	85.8	88.5	56.8	58.9	84.8	77.3	91.1	70.4	74.2	93.3	88.3
Nagaland	88.9	83.7	84.7	94.0	95.1	86.2	84.8	80.8	94.6	90.9	89.3	83.5	85.3	93.9	95.7
Manipur	94.9	63.4	76.6	93.3	97.5	95.3	57.1	67.0	85.3	96.7	94.8	65.1	79.2	95.4	97.7
Mizoram	96.7	91.1	89.7	97.4	96.5	96.3	88.8	85.0	96.6	96.9	96.8	92.3	92.2	97.8	96.3
Tripura	96.1	92.1	92.1	96.1	96.5	95.9	86.9	86.9	94.2	93.9	96.1	94.0	94.1	96.9	97.5
Meghalaya	91.0	60.3	83.7	92.0	94.2	85.9	59.2	79.8	86.6	91.4	93.3	60.9	85.4	94.5	95.5
Assam	90.2	52.8	66.6	86.9	89.0	91.2	51.8	69.3	86.4	86.3	90.0	52.9	66.2	87.0	89.4
Gujarat	82.7	59.8	77.0	90.1	82.2	80.3	48.2	77.7	88.6	80.6	82.9	60.8	76.9	90.2	82.3
Maharashtra	92.2	80.8	88.6	95.4	93.1	84.9	69.5	84.2	91.3	83.3	92.5	81.3	88.8	95.5	93.5
Goa	89.3	85.4	90.8	96.8	93.8	87.6	91.3	91.1	96.3	94.8	89.4	85.1	90.8	96.8	93.8
Andhra Pradesh	96.5	85.7	92.5	96.4	96.1	94.2	76.1	83.1	92.9	93.1	96.9	87.3	94.1	96.9	96.6
Telangana	94.1	80.6	86.4	94.9	95.5	93.2	75.8	85.0	94.4	95.1	94.2	81.1	86.6	95.0	95.6
Karnataka	86.4	57.5	70.5	90.4	87.2	82.3	54.1	68.3	91.7	87.2	86.8	57.8	70.7	90.2	87.2
Kerala	93.9	53.2	74.0	90.9	90.9	90.3	47.1	67.0	78.8	83.8	94.2	53.8	74.8	92.2	91.6
Tamil Nadu	91.1	68.6	82.7	93.2	91.7	90.4	76.4	89.1	96.6	96.4	91.2	67.7	82.0	92.8	91.2
Puducherry	96.4	73.3	88.4	96.9	93.8	94.8	58.2	82.7	93.7	88.5	96.6	74.5	88.8	97.2	94.2

**Appendix Table A-9.2:** Percentage of adults aged 15 or above who believe that use of smokeless tobacco causes serious illness, oral cancer, dental diseases and harm to fetus during pregnancy by smokeless tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus			Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus			Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus			
	Serious illness	Oral cancer	Dental diseases	Overall	Serious illness	Oral cancer	Dental diseases	Current smokeless tobacco users	Serious illness	Oral cancer	Dental diseases	Current non-users of smokeless tobacco	Serious illness	Oral cancer	Dental diseases	Current non-users of smokeless tobacco	Serious illness	Oral cancer	Dental diseases
India	95.6	94.4	90.7	87.9	94.0	92.3	88.9	83.5	96.1	95.0	91.2	89.1							
Jammu & Kashmir	94	93.9	92.4	91.0	87.4	92.4	89.3	83.4	95.1	94.0	92.6	91.4							
Himachal Pradesh	98.1	97.5	96.9	97.1	96.7	95.4	99.1	96.1	98.1	97.6	96.8	97.2							
Punjab	98.3	97.4	94.0	93.3	98.7	97.2	96.1	91.7	98.3	97.4	93.9	93.4							
Chandigarh	99.2	99.5	98.9	98.1	98.6	100.0	99.7	90.6	99.3	99.4	98.9	98.6							
Uttarakhand	99.2	97.9	94.8	97.1	99.2	98.8	93.7	94.4	99.2	97.8	95.0	97.5							
Haryana	97.8	96.2	95.5	92.1	97.4	93.4	87.7	86.2	97.9	96.4	96.0	92.5							
Delhi	97.9	97.9	96.6	96.9	94.2	95.6	93.3	94.2	98.2	98.1	96.9	97.2							
Rajasthan	95.7	92.2	93.1	89.2	94.9	90.7	91.5	86.0	95.8	92.4	93.3	89.7							
Uttar Pradesh	97.9	97.0	92.2	94.4	96.8	95.6	91.1	93.0	98.4	97.5	92.7	94.9							
Chhattisgarh	98.2	98.0	94.8	94.7	97.6	97.3	92.7	91.9	98.5	98.4	96.0	96.2							
Madhya Pradesh	96.5	96.4	94.0	86.9	94.9	96.0	93.9	81.9	97.2	96.6	94.0	88.9							
West Bengal	95.7	94.1	84.2	90.2	94.7	92.0	86.9	86.1	95.9	94.6	83.6	91.3							
Jharkhand	91.2	89.8	84.7	70.1	89.6	89.7	80.6	59.6	92.0	89.9	86.9	75.8							
Odisha	92.4	86.4	84.7	74.6	90.7	82.8	83.5	68.7	93.6	89.0	85.7	79.0							
Bihar	98.0	95.6	96.5	92.6	98.9	96.7	98.5	92.6	97.7	95.2	95.9	92.6							



State/UT	Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus		Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus		Adults who believe that use of smokeless tobacco causes			Who believe that use of smokeless tobacco during pregnancy causes harm to foetus		
	Serious illness	Oral cancer	Dental diseases	Overall	Serious illness	Oral cancer	Dental diseases	Current smokeless tobacco users	Serious illness	Oral cancer	Dental diseases	Current non-users of smokeless tobacco	Serious illness	Oral cancer	Dental diseases	Current non-users of smokeless tobacco
Sikkim	93.1	95.4	96.1	91.7	94.8	95.4	92.6	93.4	92.9	95.4	96.5	91.6				
Arunachal Pradesh	92.2	91.0	84.4	71.2	89.1	89.1	83.6	67.0	94.2	92.2	84.9	74.0				
Nagaland	96.0	94.3	90.3	88.1	95.9	95.8	90.6	86.3	96.1	93.4	90.1	89.3				
Manipur	99.0	95.1	92.6	95.5	98.9	95.4	91.4	96.4	99.1	94.9	93.6	94.6				
Mizoram	96.7	97.1	95.0	92.8	96.9	97.1	94.7	91.6	96.7	97.1	95.2	93.4				
Tripura	97.6	95.9	90.2	92.0	96.1	93.0	88.4	88.6	98.9	98.6	92.0	95.2				
Meghalaya	94.2	87.8	73.6	90.2	93.7	86.0	64.7	91.4	94.4	88.2	75.9	89.9				
Assam	91.1	84.8	76.8	77.7	90.1	82.8	76.7	78.8	91.8	86.3	76.9	76.9				
Gujarat	91.6	92.5	90.1	82.2	91.0	92.0	90.6	79.0	91.7	92.7	90.0	83.0				
Maharashtra	96.4	96.9	96.0	91.0	94.8	95.4	94.8	89.2	96.9	97.4	96.4	91.6				
Goa	98.2	98.6	97.1	94.1	99.6	99.6	97.6	89.6	98.1	98.5	97.0	94.4				
Andhra Pradesh	96.6	96.5	93.4	85.9	91.6	86.8	79.8	68.8	97.0	97.3	94.5	87.2				
Telangana	96.9	95.9	96.3	85.9	87.7	88.6	89.9	75.1	97.9	96.7	97.0	87.1				
Karnataka	89.1	90.6	79.7	69.7	82.4	85.0	71.2	52.7	90.5	91.7	81.4	73.0				
Kerala	93.2	91.3	84.5	81.1	76.4	68.6	62.3	65.1	94.2	92.6	85.8	82.0				
Tamil Nadu	95.1	93.1	87.0	90.7	92.0	88.8	82.2	80.7	95.5	93.6	87.6	91.9				
Puducherry	97.6	97.4	86.4	94.7	91.2	88.0	57.0	80.1	98.0	97.8	87.9	95.4				

**Appendix Table A-9.3:** Percentage of adults aged 15 or above who believe that breathing other people's smoke causes serious illness among non-smokers by smoking status according to states/UTs, GATS 2 India, 2016-2017

State/UT	Who believe that breathing other people's smoke causes serious illness in non-smokers			Who believe that breathing other people's smoke causes serious among children		
	Overall	Current smoker	Current non-smoker	Overall	Current smoker	Current non-smoker
India	92.4	91.0	92.6	93.3	91.8	93.5
Jammu & Kashmir	89.5	93.4	88.5	91.5	94.9	90.6
Himachal Pradesh	94.7	96.1	94.5	96.5	98.5	96.1
Punjab	96.5	96.8	96.5	96.9	97.8	96.8
Chandigarh	97.9	94.6	98.3	99.1	99.1	99.1
Uttarakhand	97.9	97.9	97.9	98.4	98.2	98.4
Haryana	94.7	93.9	94.8	96.0	95.2	96.1
Delhi	95.7	91.9	96.1	96.0	93.1	96.4
Rajasthan	91.7	85.5	92.7	93.1	86.2	94.1
Uttar Pradesh	94.4	93.4	94.6	95.9	94.0	96.1
Chhattisgarh	94.7	94.4	94.7	95.1	95.1	95.1
Madhya Pradesh	90.6	86.9	91.0	92.1	88.8	92.5
West Bengal	94.8	94.1	94.9	95.9	96.5	95.7
Jharkhand	84.2	85.4	84.1	84.5	80.3	85.1
Odisha	85.7	87.7	85.6	85.7	86.0	85.7
Bihar	96.7	93.2	96.9	96.4	92.8	96.6
Sikkim	83.0	81.7	83.1	87.8	88.6	87.7
Arunachal Pradesh	86.4	79.8	88.4	86.2	80.7	87.8
Nagaland	86.9	85.2	87.2	92.5	94.5	92.2
Manipur	98.0	97.9	98.0	97.7	97.5	97.7
Mizoram	93.6	92.2	94.3	95.5	94.2	96.1
Tripura	96.9	96.7	97.0	98.5	97.4	98.9
Meghalaya	94.3	90.3	96.2	95.0	91.3	96.8
Assam	87.0	88.0	86.8	90.9	92.6	90.6
Gujarat	88.1	82.2	88.5	88.7	83.1	89.2
Maharashtra	93.2	88.7	93.3	93.9	88	94.2
Goa	91.4	85.9	91.6	96.7	92.9	96.9
Andhra Pradesh	95.4	94.4	95.6	95.9	95.6	95.9
Telangana	94.9	94.3	95.0	95.3	94.6	95.3
Karnataka	84.8	77.1	85.5	84.9	80.7	85.3
Kerala	90.1	85.1	90.7	90.6	86.7	91.0
Tamil Nadu	93.2	96.8	92.8	93.4	94.2	93.3
Puducherry	96.7	94.9	96.8	97.1	97.5	97.1

**Appendix Table A-9.4:** Percentage of current smokers who know or believe that smoking has harmed their body and percentage of current smokeless tobacco users who know or believe that smokeless tobacco use has harmed their body by states/UTs, GATS 2 India, 2016-17

State/UT	Smokers	Smokeless tobacco users
India	49.3	35.1
Jammu & Kashmir	50.1	34.0
Himachal Pradesh	41.1	35.2
Punjab	54.7	39.6
Chandigarh	29.4	17.7
Uttarakhand	39.3	27.6
Haryana	54.3	62.7
Delhi	68.1	64.1
Rajasthan	36.5	38.3
Uttar Pradesh	45.7	34.6
Chhattisgarh	28.4	25.7
Madhya Pradesh	43.1	38.2
West Bengal	70.6	52.6
Jharkhand	34.6	34.9
Odisha	34.9	26.2
Bihar	41.7	26.5
Sikkim	51.4	47.5
Arunachal Pradesh	46.6	58.5
Nagaland	67.5	59.7
Manipur	50.4	32.2
Mizoram	74.8	58.5
Tripura	93.6	88.9
Meghalaya	59.6	72.8
Assam	34.7	33.9
Gujarat	16.4	16.9
Maharashtra	26.8	29.2
Goa	38.7	39.4
Andhra Pradesh	46.3	33.5
Telangana	53.4	39.2
Karnataka	40.0	32.9
Kerala	72.8	46.1
Tamil Nadu	81.0	59.8
Puducherry	46.8	33.5

**Appendix Table A-9.5:** Percentage of adults aged 15 or above who believe that tobacco use leads to addiction by tobacco use status according to states/UTs, GATS 2 India, 2016-17

State/UT	Overall	Current tobacco users	Current Non-users
India	92.9	92.7	92.9
Jammu & Kashmir	91.4	92.1	91.2
Himachal Pradesh	95.4	97.3	95.1
Punjab	95.3	92.8	95.7
Chandigarh	97.8	95.3	98.2
Uttarakhand	96.3	93.8	97.3
Haryana	97.4	96.9	97.5
Delhi	96.0	93.7	96.6
Rajasthan	94.3	94.1	94.4
Uttar Pradesh	95.8	95.9	95.7
Chhattisgarh	93.0	91.1	94.2
Madhya Pradesh	94.1	92.9	94.7
West Bengal	96.2	97.2	95.7
Jharkhand	91.7	93.0	91.0
Odisha	92.7	93.4	92.1
Bihar	94.5	97.6	93.5
Sikkim	91.9	90.6	92.1
Arunachal Pradesh	89.3	88.4	90.1
Nagaland	93.2	94.1	92.4
Manipur	90.3	90.8	89.6
Mizoram	96.6	96.1	97.4
Tripura	94.5	93.5	96.3
Meghalaya	95.0	93.6	96.3
Assam	84.1	82.6	85.5
Gujarat	90.3	93.9	89.2
Maharashtra	88.3	83.1	90.1
Goa	90.4	89.6	90.5
Andhra Pradesh	96.1	93.5	96.7
Telangana	95.3	93.0	95.8
Karnataka	84.3	87.0	83.5
Kerala	85.2	76.0	86.5
Tamil Nadu	93.5	94.5	93.2
Puducherry	94.3	89.5	94.9

## APPENDIX B

# SAMPLE DESIGN



### INTRODUCTION

The sampling for GATS 2 was done in the light of objectives of GATS 2. The major objective of GATS 2, India was to obtain estimates of various dimensions of tobacco use like smoking and smokeless tobacco use, second hand smoking and cessation efforts, for men and women in both rural and urban areas at national level; and for men and women in each individual state of India and two Union Territories (UTs) of Chandigarh and Puducherry. Additionally, GATS 2 was also aimed to estimate the changes in the prevalence of tobacco use since GATS 1 conducted in 2009-10, at national level and for each state/UT.

#### A1. SAMPLE SIZE

The GATS 2 sample size was estimated by considering both the objectives of 1) estimation of prevalence of tobacco use separately for men and women in each state/UT of India and 2) testing the difference in prevalence of tobacco use between GATS 1 and GATS 2 for each state. The aggregated sample of all the states/UTs was sufficient to produce national level indicators for men and women in both rural and urban areas.

The sampling experts for all the country surveys under GATS have recommended sample size of 2,000 for the estimation of prevalence of tobacco use. The underlying assumptions are; a tobacco use of 40%, margin of error of 3.0 and design effect of 2.0. Since GATS 2 aims at indicators for males and women in each state (for total areas of the state), a minimum sample of 2,000 for all the states/UTs except smaller north-eastern states was ensured. For each of the smaller seven states of north-east, a sample of 1,500 was ensured. Total state sample was divided equally among men and women. However, GATS 1 showed that in many states the prevalence of tobacco use among women, especially from the states/UTs in

the Northern part of India and in Goa, Kerala and Puducherry, is quite low - lesser than 10 percent. To estimate the prevalence of tobacco use among women, it was decided to have a larger sample size for women in these states/UTs. Additionally for the second round of GATS, achieving sufficiently large power (ideally 80%) to detect the difference in the tobacco use prevalence from GATS 1 to GATS 2 was a consideration. The national sample size was sufficient to detect even one percentage point change in tobacco use with 80 percent power. In most of the states, the state sample size was sufficient to detect a change of order of five percentage points with 80 percent power.

The state sample size was allocated to urban and rural areas of the state according to the proportion of urban/rural population within a state/UT. The number of PSUs in a state/UT is estimated with an allocation of 30 households/respondents per PSU.

#### A2. SAMPLING DESIGN

In each state/UT, a sample selection was done separately in rural and urban areas. Multi-stage sampling was adopted for the selection of respondents.

Selection of the respondents in rural areas was done in three stages. 1) In the first stage a required number of primary sampling units (PSUs), i.e., villages were selected. 2) In the second stage from each PSU, i.e., village, the required number of households were selected and 3) at third stage from each selected household one respondent, either a male household member or a female household member aged 15+ was selected.

Selection of the respondents in urban areas was done in four stages. 1) In the first stage a required number of PSUs, i.e., urban wards were selected. 2) In the second stage from each PSU, i.e., urban ward, one census enumeration block (CEB) was selected. 3) At third stage from each CEB, required number of

households were selected and 4) at the fourth stage from each selected household, one respondent, either a male household member or a female household member aged 15+ was selected.

## SELECTION OF PSUS

### Sampling frame in rural areas

For the first stage of sample selection, all the villages within a state/UT formed a sampling frame. Before selection, all the villages with less than five households were removed from the frame. As per Census of India 2011, the proportion of population in these small villages accounted for only 0.02% of total rural population, hence the removal of the small villages from the frame did not disturb the representativeness of the sample. Further, villages with 5-49 households were merged with the neighboring large village for ensuring sufficient choice for selection of 30 households. All the villages within a state/UT were stratified first into geographical regions, i.e., groups of contiguous districts and then within each region by village size and percentage of scheduled caste/scheduled tribe population. Besides this explicit stratification, female literacy was used for implicit stratification.

### Selection of villages

From each stratum (described earlier) the required number of villages was selected by probability proportional to size (PPS) sampling with number of households in each village as the size measure. All the selected large villages with more than 300 households in a sample were segmented into three or more smaller segments of size of 100-200 households and then only two segments were selected by probability proportional to size (PPS) sampling, with number of households in each segment as the size measure. These two segments together formed one PSU.

### Sampling frame in urban areas

All the city wards from all the urban areas of the state/UT formed a sampling frame for the first stage of selection. All the wards within a state/UT were stratified into geographical regions, i.e., groups of contiguous districts. Besides this regional stratification, female literacy was used for implicit stratification.

At the second stage of selection, all the Census Enumeration Blocks (CEBs) in a selected ward formed a sampling frame.

### Selection of urban wards

From each stratum required number of wards was selected by PPS sampling, with number of households in each ward as the size measure.

### Selection of CEB

In each of the selected ward, a complete list of all the CEBs within a ward formed a sampling frame. From the list of CEBs one CEB was selected by PPS sampling with population of the CEB as size measure.

### Selection of households

In all the selected villages/village segments in rural areas and selected CEBs in urban areas, complete house listing was carried out. These lists of the households form a sampling frame for the selection of households. From the list of households, 33 households (target of 30 plus additional three for possible non-response) were selected by systematic random sampling.

### Selecting individuals within households

The 33 selected households in a PSU were divided into two groups as 1) households for interview of a male member and 2) households for interview of a female member. The division of the 33 selected households was in proportion to the total sample size of male and female interviews in a state/UT.

### Selection of male/female respondents

In a selected household a list of all the males/women members aged 15 years or above formed the sampling frame for the selection of male/female respondents. From the total number of male/female members in a household, one individual was selected at random for the interview. The selection of the individual respondent was with the help of handheld device.

**Appendix Table B-1:** Sample size by Gender, Residence and Number of Primary Sampling Units (PSU) by Residence

State	Allocation of total sample size by gender			Allocation of sample by residence			Number of PSUs by residence		
	Total	Male	Female	% Urban	Urban	Rural	Total	Urban	Rural
Jammu & Kashmir	2,500	1,000	1,500	27.4	685	1,815	83	23	60
Himachal Pradesh	2,500	1,000	1,500	10.0	250	2,250	83	8	75
Punjab	2,500	1,000	1,500	37.5	938	1,562	83	31	52
Chandigarh	2,500	1,000	1,500	97.3	2,433	67	83	81	2
Uttarakhand	2,500	1,000	1,500	30.2	755	1,745	83	25	58
Haryana	2,500	1,000	1,500	34.9	872	1,628	83	29	54
Delhi	2,500	1,000	1,500	97.5	2,437	63	83	81	2
Rajasthan	3,000	1,500	1,500	24.9	747	2,253	100	25	75
Uttar Pradesh	3,500	1,750	1,750	22.3	781	2,719	117	26	91
Chhattisgarh	2,000	1,000	1,000	23.2	464	1,536	67	15	52
Madhya Pradesh	3,000	1,500	1,500	27.6	828	2,172	100	28	72
West Bengal	3,000	1,500	1,500	31.9	957	2,043	100	32	68
Jharkhand	2,000	1,000	1,000	24.0	480	1,520	67	16	51
Odisha	2,000	1,000	1,000	16.7	334	1,666	67	11	56
Bihar	3,000	1,500	1,500	11.3	339	2,661	100	11	89
Sikkim	1,500	750	750	25.2	378	1,122	50	13	37
Arunachal Pradesh	1,500	750	750	22.9	344	1,156	50	11	39
Nagaland	1,500	750	750	28.9	434	1,066	50	14	36
Manipur	1,500	750	750	32.5	487	1,013	50	16	34
Mizoram	1,500	750	750	52.1	782	718	50	26	24
Tripura	1,500	750	750	26.2	393	1,107	50	13	37
Meghalaya	1,500	750	750	20.1	301	1,199	50	10	40
Assam	3,000	1,500	1,500	14.1	423	2,577	100	14	86
Gujarat	3,000	1,500	1,500	42.6	1,278	1,722	100	43	57
Maharashtra	3,500	1,750	1,750	45.2	1,582	1,918	117	53	64
Goa	2,500	1,000	1,500	62.2	1,555	945	83	52	31
Andhra Pradesh	2,000	1,000	1,000	33.4	668	1,332	67	22	45
Telangana	2,000	1,000	1,000	33.4	668	1,332	67	22	45
Karnataka	3,000	1,500	1,500	38.7	1,161	1,839	100	39	61
Kerala	2,500	1,000	1,500	47.7	1,193	1,307	83	40	43
Tamil Nadu	3,000	1,500	1,500	48.4	1,452	1,548	100	48	52
Pudducherry	2,500	1,000	1,500	68.3	1,707	793	83	57	26
<b>India</b>	<b>76,500</b>	<b>35,750</b>	<b>40,750</b>	<b>31.2</b>	<b>28,106</b>	<b>48,394</b>	<b>25,49</b>	<b>935</b>	<b>1,614</b>

**Appendix Table B-2:** Sample design implementation and number of households and PSUs selected, GATS 2 India, 2016-17

Region and state/UT	Population counts (2011 census)			Target sample size			Non response adjusted/inflated sample size					No. of sampled PSUs
	Total	Urban	Rural	Total	Urban	Rural	Total	Male	Female	Urban	Rural	
<b>India</b>	1,21,05,69,573	37,71,06,125	83,34,63,448	76,500	28,108	48,392	84,047	39,284	44,763	30,821	53,226	2,547
Jammu & Kashmir	12,541,302	3,433,242	9,108,060	2,500	685	1,815	2,673	1,068	1,605	726	1,947	83
Himachal Pradesh	6,864,602	688,552	6,176,050	2,500	250	2,250	2,739	1,095	1,644	264	2,475	83
Punjab	27,743,338	10,399,146	17,344,192	2,500	938	1,562	2,739	1,095	1,644	1,023	1,716	83
Chandigarh	1,055,450	1,026,459	28,991	2,500	2,432	68	2,739	1,095	1,644	2,673	66	83
Uttarakhand	10,086,292	3,049,338	7,036,954	2,500	755	1,745	2,739	1,095	1,644	825	1,914	83
Haryana	25,351,462	8,842,103	16,509,359	2,500	873	1,627	2,739	1,095	1,644	957	1,782	83
Delhi	16,787,941	16,368,899	419,042	2,500	2,437	63	2,739	1,095	1,644	2,673	66	83
Rajasthan	68,548,437	17,048,085	51,500,352	3,000	747	2,253	3,300	1,650	1,650	825	2,475	100
Uttar Pradesh	199,812,341	44,495,063	155,317,278	3,500	780	2,720	3,861	1,930	1,931	858	3,003	117
Chhattisgarh	25,545,198	5,937,237	19,607,961	2,000	464	1,536	2,211	1,106	1,105	495	1,716	67
Madhya Pradesh	72,626,809	20,069,405	52,557,404	3,000	828	2,172	3,300	1,650	1,650	924	2,376	100
West Bengal	91,276,115	29,093,002	62,183,113	3,000	957	2,043	3,300	1,650	1,650	1,056	2,244	100
Jharkhand	32,988,134	7,933,061	25,055,073	2,000	480	1,520	2,211	1,105	1,106	528	1,683	67
Odisha	41,974,218	7,003,656	34,970,562	2,000	334	1,666	2,210	1,105	1,105	362	1,848	66
Bihar	104,099,452	11,758,016	92,341,436	3,000	339	2,661	3,300	1,650	1,650	363	2,937	100
Sikkim	610,577	153,578	456,999	1,500	378	1,122	1,650	825	825	429	1,221	50
Arunachal Pradesh	1,383,727	317,369	1,066,358	1,500	344	1,156	1,650	825	825	363	1,287	50
Nagaland	1,978,502	570,966	1,407,536	1,500	434	1,066	1,650	825	825	462	1,188	50



Region and state/UT	Population counts (2011 census)			Target sample size			Non response adjusted/inflated sample size					No. of sampled PSUs
	Total	Urban	Rural	Total	Urban	Rural	Total	Male	Female	Urban	Rural	
Manipur	2,570,390	834,154	1,736,236	1,500	488	1,012	1,647	823	824	528	1,119	49
Mizoram	1,097,206	571,771	525,435	1,500	782	718	1,650	825	825	858	792	50
Tripura	3,673,917	961,453	2,712,464	1,500	393	1,107	1,650	825	825	429	1,221	50
Meghalaya	2,966,889	595,450	2,371,439	1,500	302	1,198	1,650	825	825	330	1,320	50
Assam	31,205,576	4,398,542	26,807,034	3,000	423	2,577	3,300	1,650	1,650	462	2,838	100
Gujarat	60,439,692	25,745,083	34,694,609	3,000	1,278	1,722	3,300	1,650	1,650	1,419	1,881	100
Maharashtra	112,374,333	50,818,259	61,556,074	3,500	1,582	1,918	3,861	1,930	1,931	1,749	2,112	117
Goa	1,458,545	906,814	551,731	2,500	1,555	945	2,739	1,095	1,644	1,716	1,023	83
Andhra Pradesh	84,580,777	28,219,075	56,361,702	2,000	668	1,332	2,211	1,106	1,105	726	1,485	67
Telangana				2,000	668	1,332	2,211	1,106	1,105	726	1,485	67
Karnataka	61,095,297	23,625,962	37,469,335	3,000	1,161	1,839	3,300	1,650	1,650	1,287	2,013	100
Kerala	33,406,061	15,934,926	17,471,135	2,500	1,193	1,307	2,739	1,095	1,644	1,320	1,419	83
Tamil Nadu	72,147,030	34,917,440	37,229,590	3,000	1,452	1,548	3,300	1,650	1,650	1,584	1,716	100
Puducherry	1,247,953	852,753	395,200	2,500	1,708	792	2,739	1,095	1,644	1,881	858	83

Note: The following Union Territories (UTs) were excluded from India: Daman & Diu; Dadra Nagar Haveli; Andaman; and Lakshadweep.



## APPENDIX C

# SAMPLING ERROR



The estimates from a sample survey are affected by two types of error: (1) non-sampling errors, and (2) sampling errors. Non-sampling errors are the result of errors or mistakes that cannot be attributable to sampling and were made in implementing data collection or in data processing, such as errors in coverage, response errors, non-response errors, faulty questionnaires, interviewer recording errors, data processing errors, etc. Although numerous efforts were made during the implementation of GATS 2 India to minimize those errors, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

The sample of respondents selected in the GATS 2 India was only one of the samples that could have been selected from the same population, using the same design and sample size. Each of these samples would yield results that differed somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey results.

The following sampling error measures are presented for each of the selected indicators:

- ❖ **Standard error (SE):** Sampling errors are usually measured in terms of standard errors for particular estimate or indicator (R). Standard error of an estimate is thus simply the square root of the variance of that estimate, and is computed in the same units as the estimate.

- ❖ **Design effect (DEFT)** shows the efficiency of the sample design and is calculated for each estimate as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a DEFT value above 1.0 indicates an increase in the standard error due to the use of a more complex sample design. In general, for a well-designed study, DEFT usually ranges from 1 to 3. It is common, however, for DEFT to be much larger, up to 7 or 8.
- ❖ **Relative standard error (SE/R)** is the ratio of the standard error to the value of the indicator.
- ❖ **Confidence limits ( $R \pm 1.96SE$ )** are calculated to show the interval within which the true value for the population can be reasonably assumed to fall. For any given statistic calculated from the survey, the value of that statistics will fall within a range of plus or minus two times the standard error of the statistic in 95 percent of all possible samples of identical size and design.

### Calculation of standard error

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, both GATS 1 and GATS 2 sample are the result of a

multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. For the calculation of sampling errors from GATS 2 India data, SPSS Version 17 with complex samples module was used. The Taylor linearization method of variance estimation was used for survey estimates that are means or proportions.

The Taylor linearization method treats any percentage or average as a ratio estimate,  $r = y/x$ , where  $y$  represents the total sample value for variable  $y$ , and  $x$  represents the total number of cases in the group or subgroup under consideration. The variance of  $r$  is computed

$$SE^2(r) = \text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^2 \left[ \frac{m_h}{m_h - 1} \left( \sum_{i=1}^{m_h} Z_{hi}^2 - \frac{Z_h^2}{m_h} \right) \right]$$

in which,  $Z_{hi} = y_{hi} - rx_{hi}$ , and  $Z_h = y_h - rx_h$

using the formula given below:

where  $h$  (=1 or 2) represents the stratum which is urban or rural,

$m_h$  is the total number of PSUs selected in the  $h^{\text{th}}$  stratum,

$y_{hi}$  is the sum of the weighted values of variable  $y$  in the  $i^{\text{th}}$  PSU in the  $h^{\text{th}}$  stratum,

$x_{hi}$  is the sum of the weighted number of cases in the  $i^{\text{th}}$  PSU in the  $h^{\text{th}}$  stratum, and

$f$  is the overall sampling fraction, which is so small that it is ignored.

The results are presented in this appendix for the country as a whole, for urban and rural areas, and for gender. For each variable or indicator, the type of statistic (mean, proportion, or rate) and the base population are given in Table C-1. In addition to the standard error (SE) described above, the tables (Tables C-2 to C-6) include the value of the estimate (R), the number of un-weighted and weighted counts, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits.

**Appendix Table C-1:** List of indicators for sampling errors, GATS 2 India, 2016-17

Indicators	Estimate	Base Population
Current tobacco smokers	Proportion	Adults aged 15 or above
Daily tobacco smokers	Proportion	Adults aged 15 or above
Current cigarette smokers	Proportion	Adults aged 15 or above
Current <i>bidi</i> smokers	Proportion	Adults aged 15 or above
Current smokeless tobacco users	Proportion	Adults aged 15 or above
Daily smokeless tobacco users	Proportion	Adults aged 15 or above
Current 'betel quid with tobacco' users	Proportion	Adults aged 15 or above
Current <i>khaini</i> users	Proportion	Adults aged 15 or above
Current <i>gutka</i> users	Proportion	Adults aged 15 or above
Current 'oral tobacco application' users	Proportion	Adults aged 15 or above
Current ' <i>paan masala</i> with tobacco' users	Proportion	Adults aged 15 or above
Current tobacco users (smoked and/or smokeless)	Proportion	Adults aged 15 or above
Current dual tobacco users (smoked and smokeless)	Proportion	Adults aged 15 or above
Smokers who made a quit attempt in past 12 months	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months
Current smokers who planned to or were thinking about quitting	Proportion	Current smokers aged 15 or above
Smokers advised to quit by a health care provider in past 12 months	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months and who visited a healthcare provider during the past 12 months
Smokeless tobacco users who made a quit attempt in past 12 months	Proportion	Current users of smokeless tobacco and former users of smokeless tobacco who have been abstinent for less than 12 months

Indicators	Estimate	Base Population
Current smokeless tobacco users who planned to or were thinking about quitting	Proportion	Current users of smokeless tobacco aged 15 or above
Smokeless tobacco users advised to quit by a health care provider in past 12 months	Proportion	Current users of smokeless tobacco and former smokeless tobacco users who have been abstinent for less than 12 months and who visited a healthcare provider during the past 12 months
Adults exposed to tobacco smoke at home	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at the workplace	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at government buildings	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at private offices	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at health care facility	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at restaurants	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke in public transportation	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at night club/bar	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at cinema	Proportion	Adults aged 15 or above
Adults exposed to tobacco smoke at any of the seven public places	Proportion	Adults aged 15 or above
Average monthly expenditure on cigarette (for daily cigarette smokers) (in Rs)	Mean	Current daily smokers of manufactured cigarettes aged 15 or above
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	Mean	Current daily <i>bidi</i> smokers aged 15 or above
Adults who noticed advertisements of smoking tobacco products at point of sale	Proportion	Adults aged 15 or above
Adults who noticed advertisements of smoking tobacco products at places other than point of sale	Proportion	Adults aged 15 or above
Adults who noticed any type of cigarette promotion	Proportion	Adults aged 15 or above
Adults who noticed any type of <i>bidi</i> promotion	Proportion	Adults aged 15 or above
Adults who noticed advertisements of smokeless tobacco products at point of sale	Proportion	Adults aged 15 or above
Adults who noticed advertisements of smokeless tobacco products at places other than point of sale	Proportion	Adults aged 15 or above
Adults who noticed any type of smokeless tobacco promotion	Proportion	Adults aged 15 or above
Current cigarette smokers who thought about quitting because of a warning label	Proportion	Current cigarette smokers aged 15 or above
Current <i>bidi</i> smokers who thought about quitting because of a warning label	Proportion	Current <i>bidi</i> smokers aged 15 or above
Current smokeless tobacco users who thought about quitting because of a warning label	Proportion	Current users of smokeless tobacco aged 15 or above
Adults who noticed anti-smoking tobacco warning on television or radio	Proportion	Adults aged 15 or above
Adults who noticed anti-smokeless tobacco warning on television or radio	Proportion	Adults aged 15 or above
Adults who believed smoking causes serious illness	Proportion	Adults aged 15 or above
Adults who believed Second Hand Smoke causes serious illness	Proportion	Adults aged 15 or above
Adults who believed Second Hand Smoke causes serious illness in children	Proportion	Adults aged 15 or above
Adults who believed use of smokeless tobacco causes serious illness	Proportion	Adults aged 15 or above
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	Proportion	Adults aged 15 or above

**Appendix Table C-2:** Sampling errors for all adults aged 15 or above, GATS 2 India, 2016-17, National Sample

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Current tobacco smokers	.1067	.0024	74,037	932,488	4.3667	2.0897	.02222	.1021	.1114
Daily tobacco smokers	.0859	.0020	74,037	932,488	3.9015	1.9752	.02368	.0819	.0899
Current cigarette smokers	.0403	.0019	74,037	932,488	6.8349	2.6144	.04691	.0366	.0440
Current <i>bidi</i> smokers	.0770	.0021	74,037	932,488	4.4346	2.1058	.02679	.0730	.0811
Current smokeless tobacco users	.2138	.0035	74,037	932,488	5.3208	2.3067	.01625	.2070	.2206
Daily smokeless tobacco users	.1824	.0033	74,037	932,488	5.3646	2.3162	.01802	.1760	.1889
Current 'betel quid with tobacco' users	.0580	.0022	74,037	932,488	6.4427	2.5382	.03759	.0537	.0623
Current <i>khaini</i> users	.1116	.0026	74,037	932,488	5.1264	2.2642	.02347	.1065	.1168
Current <i>gutka</i> users	.0682	.0023	74,037	932,488	5.9238	2.4339	.03307	.0638	.0726
Current 'oral tobacco application' users	.0383	.0015	74,037	932,488	4.4234	2.1032	.03874	.0354	.0412
Current <i>paan masala</i> with tobacco' users	.0285	.0015	74,037	932,488	5.6798	2.3832	.05117	.0256	.0313
Current tobacco users (smoked and/or smokeless)	.2861	.0035	74,037	932,488	4.3650	2.0893	.01213	.2793	.2929
Current dual tobacco users (smoked and smokeless)	.0344	.0014	74,037	932,488	4.1102	2.0274	.03946	.0318	.0371
Smokers who made a quit attempt in past 12 months	.3853	.0097	9,748	102,981	3.8648	1.9659	.02515	.3663	.4043
Current smokers who planned to or were thinking about quitting	.5538	.0101	9,482	99,321	3.8863	1.9714	.01817	.5340	.5735
Smokers advised to quit by a health care provider in past 12 months	.4882	.0132	4,197	51,717	2.9143	1.7071	.02698	.4624	.5140
Smokeless tobacco users who made a quit attempt in past 12 months	.3321	.0070	15,479	202,900	3.4489	1.8571	.02117	.3183	.3458
Current smokeless tobacco users who planned to or were thinking about quitting	.4963	.0078	15,213	199,046	3.6774	1.9177	.01566	.4810	.5115
Smokeless tobacco users advised to quit by a health care provider in past 12 months	.3174	.0100	6,500	96,797	2.9909	1.7294	.03146	.2979	.3370
Adults exposed to tobacco smoke at home	.3868	.0056	73,334	925,751	9.5884	3.0965	.01440	.3759	.3977
Adults exposed to tobacco smoke at the workplace	.3017	.0079	15,766	189,290	4.6502	2.1564	.02613	.2863	.3172
Adults exposed to tobacco smoke at government buildings	.0534	.0018	73,773	929,563	4.7761	2.1854	.03388	.0498	.0569
Adults exposed to tobacco smoke at private offices	.0361	.0016	73,827	930,516	5.2046	2.2814	.04336	.0331	.0392
Adults exposed to tobacco smoke at health care facility	.0561	.0020	73,901	931,320	5.4804	2.3410	.03533	.0522	.0599
Adults exposed to tobacco smoke at restaurants	.0744	.0022	73,887	931,105	5.1319	2.2654	.02939	.0701	.0787
Adults exposed to tobacco smoke in public transportation	.1333	.0031	73,911	931,486	6.3077	2.5115	.02356	.1271	.1394
Adults exposed to tobacco smoke at night club/bar	.0214	.0010	73,739	929,607	3.7295	1.9312	.04810	.0194	.0234

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Adults exposed to tobacco smoke at cinema	.0221	.0012	73,814	930,642	4.9625	2.2277	.05456	.0197	.0244
Adults exposed to tobacco smoke at any of the seven public places	.2565	.0038	73,997	932,158	5.6175	2.3701	.01483	.2490	.2640
Average monthly expenditure on manufactured cigarette (for daily cigarette smokers) (in Rs)	1192.45	104.0940	1,818	15,023	4.5410	2.1310	.08729	988.15	1396.76
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	284.12	13.8883	4,869	58,696	1.7866	1.3366	.04888	256.88	311.36
Adults who noticed advertisements of smoking tobacco products at point of sale	.0936	.0031	74,007	932,256	8.2860	2.8785	.03292	.0876	.0997
Adults who noticed advertisements of smoking tobacco products at places other than point of sale	.1675	.0040	73,970	931,881	8.5168	2.9184	.02392	.1596	.1753
Adults who noticed any type of cigarette promotion	.0526	.0023	73,961	931,762	7.6355	2.7632	.04311	.0482	.0571
Adults who noticed any type of <i>bidi</i> promotion	.0538	.0023	73,954	931,607	7.3705	2.7149	.04186	.0494	.0582
Adults who noticed advertisements of smokeless tobacco products at point of sale	.0837	.0031	74,011	932,306	9.0721	3.0120	.03664	.0776	.0897
Adults who noticed advertisements of smokeless tobacco products at places other than point of sale	.1676	.0041	73,963	931,715	9.0701	3.0117	.02468	.1595	.1757
Adults who noticed any type of smokeless tobacco promotion	.0571	.0026	73,962	931,788	9.2915	3.0482	.04554	.0520	.0622
Current cigarette smokers who thought about quitting because of a warning label	.6188	.0161	4,235	37,541	4.6724	2.1616	.02607	.5872	.6505
Current <i>bidi</i> smokers who thought about quitting because of a warning label	.5380	.0113	6,069	71,831	3.1257	1.7680	.02103	.5158	.5602
Current smokeless tobacco users who thought about quitting because of a warning label	.4617	.0082	15,229	199,254	4.1043	2.0259	.01773	.4456	.4777
Adults who noticed anti-smoking tobacco warning on television or radio	.6796	.0047	74,018	932,208	7.4297	2.7258	.00688	.6705	.6888
Adults who noticed anti-smokeless tobacco warning on television or radio	.5932	.0050	74,018	932,312	7.5481	2.7474	.00836	.5834	.6029
Adults who believed smoking causes serious illness	.9243	.0025	74,017	932,343	6.3656	2.5230	.00265	.9195	.9291
Adults who believed Second Hand Smoke causes serious illness	.9245	.0020	74,031	932,411	4.4537	2.1104	.00222	.9205	.9285
Adults who believed Second Hand Smoke causes serious illness in children	.9329	.0019	74,031	932,388	4.4000	2.0976	.00207	.9292	.9367
Adults who believed use of smokeless tobacco causes serious illness	.9564	.0015	74,019	932,310	3.9506	1.9876	.00156	.9535	.9594
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	.8791	.0030	74,005	932,128	6.3204	2.5140	.00343	.8732	.8850



**Appendix Table C-3:** Sampling errors for men, GATS 2 India, 2016-17, National Sample

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Current tobacco smokers	.1901	.0044	33,772	476,499	4.8308	2.1979	.02332	.1814	.1988
Daily tobacco smokers	.1521	.0037	33,772	476,499	4.1041	2.0259	.02459	.1448	.1595
Current cigarette smokers	.0732	.0036	33,772	476,499	7.3998	2.7203	.04978	.0660	.0803
Current <i>bidi</i> smokers	.1397	.0039	33,772	476,499	4.7394	2.1770	.02777	.1321	.1473
Current smokeless tobacco users	.2963	.0050	33,772	476,499	4.5039	2.1222	.01681	.2865	.3061
Daily smokeless tobacco users	.2509	.0049	33,772	476,499	4.7423	2.1777	.01935	.2414	.2604
Current 'betel quid with tobacco' users	.0706	.0032	33,772	476,499	5.9363	2.4364	.04543	.0644	.0769
Current <i>khaini</i> users	.1786	.0043	33,772	476,499	4.8450	2.2011	.02427	.1701	.1871
Current <i>gutka</i> users	.1078	.0037	33,772	476,499	5.4183	2.3277	.03444	.1005	.1150
Current 'oral tobacco application' users	.0333	.0018	33,772	476,499	3.9027	1.9755	.05469	.0298	.0369
Current ' <i>paan masala</i> with tobacco' users	.0451	.0026	33,772	476,499	5.7756	2.4033	.05684	.0401	.0501
Current tobacco users (smoked and/or smokeless)	.4239	.0054	33,772	476,499	4.5263	2.1275	.01275	.4133	.4345
Current dual tobacco users (smoked and smokeless)	.0625	.0026	33,772	476,499	4.2441	2.0601	.04101	.0575	.0675
Smokers who made a quit attempt in past 12 months	.3883	.0099	8,640	93,425	3.6324	1.9059	.02544	.3690	.4077
Current smokers who planned to or were thinking about quitting	.5626	.0104	8,417	90,384	3.7976	1.9487	.01850	.5422	.5831
Smokers advised to quit by a health care provider in past 12 months	.5030	.0135	3,677	46,122	2.7357	1.6540	.02687	.4765	.5295
Smokeless tobacco users who made a quit attempt in past 12 months	.3518	.0088	9,798	143,448	3.6919	1.9214	.02493	.3346	.3690
Current smokeless tobacco users who planned to or were thinking about quitting	.5270	.0095	9,635	140,934	3.8607	1.9649	.01794	.5085	.5455
Smokeless tobacco users advised to quit by a health care provider in past 12 months	.3329	.0122	3,958	64,896	2.9310	1.7120	.03671	.3089	.3569
Adults exposed to tobacco smoke at home	.3809	.0064	33,426	473,093	6.6068	2.5704	.01693	.3682	.3935
Adults exposed to tobacco smoke at the workplace	.3271	.0091	12,300	156,874	4.8934	2.2121	.02776	.3093	.3449
Adults exposed to tobacco smoke at government buildings	.0812	.0031	33,672	475,408	4.9079	2.2154	.03836	.0751	.0873
Adults exposed to tobacco smoke at private offices	.0679	.0034	33,718	476,171	6.7929	2.6063	.04970	.0612	.0745
Adults exposed to tobacco smoke at health care facility	.1303	.0041	33,709	476,045	5.7087	2.3893	.03176	.1222	.1384
Adults exposed to tobacco smoke at restaurants	.1659	.0049	33,724	476,156	6.6089	2.5708	.02965	.1563	.1756
Adults exposed to tobacco smoke in public transportation	.0577	.0029	33,681	475,765	5.9859	2.4466	.05089	.0519	.0635
Adults exposed to tobacco smoke at night club/bar	.0406	.0020	33,689	475,911	3.8804	1.9699	.04930	.0367	.0445



Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R-1.96SE)	Upper limit (R+1.96SE)
Adults exposed to tobacco smoke at cinema	.0394	.0023	33,682	475,951	5.1542	2.2703	.05770	.0349	.0438
Adults exposed to tobacco smoke at any of the seven public places	.3565	.0061	33,762	476,416	6.1448	2.4789	.01712	.3445	.3685
Average monthly expenditure on manufactured cigarette (for daily cigarette smokers) (in Rs)	1195.53	104.79	1,752	14,924	4.5761	2.1392	.08765	989.87	1401.20
Average monthly expenditure on <i>bid'i</i> (for daily <i>bid'i</i> smokers) (in Rs)	294.73	14.80	4,488	54,715	1.7892	1.3376	.05021	265.70	323.75
Adults who noticed advertisement of smoking tobacco products at point of sale	.1278	.0048	33,754	476,350	7.7576	2.7853	.03742	.1184	.1371
Adults who noticed advertisement of smoking tobacco products at places other than point of sale	.1983	.0062	33,726	476,069	9.0273	3.0045	.03108	.1862	.2103
Adults who noticed any type of cigarette promotion	.0687	.0036	33,736	476,171	7.5103	2.7405	.05190	.0617	.0757
Adults who noticed any type of <i>bid'i</i> promotion	.0726	.0038	33,739	476,198	7.9555	2.8205	.05185	.0652	.0800
Adults who noticed advertisement of smokeless tobacco products at point of sale	.1146	.0048	33,753	476,350	8.5516	2.9243	.04181	.1052	.1239
Adults who noticed advertisement of smokeless tobacco products at places other than point of sale	.2064	.0061	33,729	476,000	8.6402	2.9394	.02965	.1944	.2184
Adults who noticed any type of smokeless tobacco promotion	.0784	.0039	33,739	476,166	8.1537	2.8555	.05034	.0707	.0862
Current cigarette smokers who thought about quitting because of a warning label	.6459	.0168	3,764	34,858	4.8431	2.2007	.02599	.6130	.6788
Current <i>bid'i</i> smokers who thought about quitting because of a warning label	.5579	.0119	5,521	66,574	3.2386	1.7996	.02136	.5345	.5812
Current smokeless tobacco users who thought about quitting because of a warning label	.5289	.0099	9,646	141,049	4.2285	2.0563	.01869	.5095	.5483
Adults who noticed anti-smoking tobacco warning on television or radio	.7472	.0053	33,758	476,246	5.5459	2.3550	.00704	.7369	.7575
Adults who noticed anti-smokeless tobacco warning on television or radio	.6561	.0060	33,759	476,336	6.1265	2.4752	.00922	.6442	.6679
Adults who believed smoking causes serious illness	.9284	.0034	33,759	476,383	6.4029	2.5304	.00361	.9218	.9349
Adults who believed Second Hand Smoke causes serious illness	.9402	.0026	33,768	476,433	4.3969	2.0969	.00272	.9352	.9452
Adults who believed Second Hand Smoke causes serious illness in children	.9477	.0022	33,768	476,401	3.8364	1.9587	.00237	.9433	.9521
Adults who believed use of smokeless tobacco causes serious illness	.9644	.0018	33,760	476,371	3.7364	1.9330	.00191	.9608	.9680
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	.8642	.0045	33,753	476,307	6.5320	2.5558	.00521	.8554	.8730

**Appendix Table C-4:** Sampling errors for women, GATS 2 India, 2016-17, National Sample

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R-1.96SE)	Upper limit (R+1.96SE)
Current tobacco smokers	.0196	.0014	40,265	455,989	3.8555	1.9636	.07299	.0168	.0224
Daily tobacco smokers	.0166	.0013	40,265	455,989	3.7819	1.9447	.07861	.0141	.0192
Current cigarette smokers	.0059	.0008	40,265	455,989	3.8576	1.9641	.13416	.0043	.0074
Current <i>bid'i</i> smokers	.0115	.0009	40,265	455,989	2.7604	1.6614	.08085	.0097	.0134
Current smokeless tobacco users	.1276	.0039	40,265	455,989	4.8379	2.1995	.03022	.1201	.1352
Daily smokeless tobacco users	.1109	.0036	40,265	455,989	4.6407	2.1542	.03206	.1039	.1178
Current 'betel quid with tobacco' users	.0448	.0026	40,265	455,989	5.6435	2.3756	.05764	.0397	.0499
Current <i>khaini</i> users	.0416	.0021	40,265	455,989	4.1037	2.0258	.05108	.0375	.0458
Current <i>gutka</i> users	.0268	.0019	40,265	455,989	5.0323	2.2433	.07099	.0231	.0306
Current 'oral tobacco application' users	.0435	.0022	40,265	455,989	4.2755	2.0677	.05097	.0391	.0478
Current ' <i>paan masala</i> with tobacco' users	.0110	.0011	40,265	455,989	4.0965	2.0240	.10063	.0089	.0132
Current tobacco users (smoked and/or smokeless)	.1422	.0040	40,265	455,989	4.6995	2.1678	.02798	.1344	.1500
Current dual tobacco users (smoked and smokeless)	.0051	.0007	40,265	455,989	3.4010	1.8442	.13581	.0037	.0064
Smokers who made a quit attempt in past 12 months	.3552	.0277	1,108	9,557	3.0356	1.7423	.07805	.3009	.4096
Current smokers who planned to or were thinking about quitting	.4642	.0332	1,065	8,937	3.7725	1.9423	.07145	.3991	.5292
Smokers advised to quit by a health care provider in past 12 months	.3660	.0372	520	5,595	2.7092	1.6460	.10168	.2930	.4390
Smokeless tobacco users who made a quit attempt in past 12 months	.2844	.0115	5,681	59,451	2.9578	1.7198	.04051	.2618	.3070
Current smokeless tobacco users who planned to or were thinking about quitting	.4218	.0130	5,578	58,112	3.0641	1.7504	.03075	.3964	.4472
Smokeless tobacco users advised to quit by a health care provider in past 12 months	.2860	.0152	2,542	31,901	2.4319	1.5594	.05324	.2561	.3159
Adults exposed to tobacco smoke at home	.3930	.0071	39,908	452,658	7.4807	2.7351	.01795	.3792	.4068
Adults exposed to tobacco smoke at the workplace	.1790	.0125	3,466	32,416	2.8577	1.6905	.06966	.1546	.2035
Adults exposed to tobacco smoke at government buildings	.0242	.0016	40,101	454,155	3.6944	1.9221	.06422	.0212	.0273
Adults exposed to tobacco smoke at private offices	.0437	.0019	40,183	455,149	3.2745	1.8096	.04452	.0399	.0475
Adults exposed to tobacco smoke at health care facility	.0159	.0012	40,178	455,060	3.5820	1.8926	.07824	.0135	.0184
Adults exposed to tobacco smoke at restaurants	.0992	.0035	40,187	455,330	4.9634	2.2279	.03532	.0923	.1060
Adults exposed to tobacco smoke in public transportation	.0136	.0011	40,146	454,751	3.1838	1.7843	.08002	.0115	.0157
Adults exposed to tobacco smoke at night club/bar	.0013	.0004	40,050	453,696	4.5950	2.1436	.31737	.0005	.0021

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Adults exposed to tobacco smoke at cinema	.0040	.0006	40,132	454,691	2.7776	1.6666	.1391	.0029	.0050
Adults exposed to tobacco smoke at any of the seven public places	.1520	.0042	40,235	455,741	4.9002	2.2136	.02749	.1438	.1601
Average monthly expenditure on manufactured cigarette (for daily cigarette smokers) (in Rs)	731.68	261.97	66	100	0.1714	0.4141	.35804	217.51	1245.86
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	138.33	14.66	381	3,981	0.7576	0.8704	.10600	109.57	167.09
Adults who noticed advertisement of smoking tobacco products at point of sale	.0580	.0038	40,253	455,906	9.6286	3.1030	.06575	.0505	.0654
Adults who noticed advertisement of smoking tobacco products at places other than point of sale	.1354	.0053	40,244	455,811	8.7144	2.9520	.03922	.1250	.1458
Adults who noticed any type of cigarette promotion	.0358	.0023	40,225	455,591	5.5669	2.3594	.06436	.0313	.0403
Adults who noticed any type of <i>bidi</i> promotion	.0342	.0023	40,215	455,409	5.6801	2.3833	.06663	.0297	.0386
Adults who noticed advertisement of smokeless tobacco products at point of sale	.0514	.0036	40,258	455,957	9.3893	3.0642	.06920	.0444	.0584
Adults who noticed advertisement of smokeless tobacco products at places other than point of sale	.1270	.0053	40,234	455,715	9.0947	3.0157	.04157	.1167	.1374
Adults who noticed any type of smokeless tobacco promotion	.0348	.0024	40,223	455,622	6.2123	2.4925	.06900	.0301	.0395
Current cigarette smokers who thought about quitting because of a warning label	.2669	.0532	471	2,683	4.3752	2.0917	.19925	.1626	.3712
Current <i>bidi</i> smokers who thought about quitting because of a warning label	.2861	.0366	548	5,257	2.9133	1.7068	.12794	.2143	.3579
Current smokeless tobacco users who thought about quitting because of a warning label	.2989	.0114	5,583	58,205	2.7582	1.6608	.03814	.2765	.3212
Adults who noticed anti-smoking tobacco warning on television or radio	.6091	.0060	40,260	455,962	5.4205	2.3282	.00980	.5974	.6208
Adults who noticed anti-smokeless tobacco warning on television or radio	.5275	.0062	40,259	455,975	5.6017	2.3668	.01177	.5153	.5396
Adults who believed smoking causes serious illness	.9201	.0030	40,258	455,960	4.4546	2.1106	.00327	.9142	.9260
Adults who believed Second Hand Smoke causes serious illness	.9081	.0030	40,263	455,978	3.9210	1.9801	.00331	.9022	.9140
Adults who believed Second Hand Smoke causes serious illness in children	.9175	.0029	40,263	455,988	4.0131	2.0033	.00316	.9119	.9232
Adults who believed use of smokeless tobacco causes serious illness	.9481	.0022	40,259	455,939	3.4570	1.8593	.00229	.9439	.9524
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	.8946	.0033	40,252	455,821	4.1412	2.0350	.00367	.8881	.9010

**Appendix Table C-5:** Sampling errors for urban, GATS 2 India, 2016-17, National Sample

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Current tobacco smokers	.0826	.0029	26,488	321,648	2.9296	1.7116	.03570	.0768	.0884
Daily tobacco smokers	.0632	.0026	26,488	321,648	2.9179	1.7082	.04115	.0581	.0683
Current cigarette smokers	.0443	.0023	26,488	321,648	3.1940	1.7872	.05194	.0398	.0488
Current <i>bidī</i> smokers	.0467	.0025	26,488	321,648	3.6109	1.9002	.05371	.0418	.0516
Current smokeless tobacco users	.1525	.0064	26,488	321,648	7.9941	2.8274	.04171	.1400	.1650
Daily smokeless tobacco users	.1278	.0057	26,488	321,648	7.5730	2.7519	.04498	.1165	.1391
Current 'betel quid with tobacco' users	.0426	.0034	26,488	321,648	7.0479	2.6548	.07875	.0360	.0492
Current <i>khaini</i> users	.0681	.0042	26,488	321,648	6.9956	2.6449	.06122	.0599	.0763
Current <i>gutka</i> users	.0629	.0037	26,488	321,648	5.8163	2.4117	.05825	.0557	.0701
Current 'oral tobacco application' users	.0281	.0024	26,488	321,648	5.4185	2.3278	.08567	.0234	.0328
Current ' <i>paan masala</i> with tobacco' users	.0229	.0022	26,488	321,648	5.5453	2.3548	.09622	.0186	.0272
Current tobacco users (smoked and/or smokeless)	.2120	.0063	26,488	321,648	5.9750	2.4444	.02949	.1997	.2242
Current dual tobacco users (smoked and smokeless)	.0231	.0019	26,488	321,648	4.1443	2.0358	.08278	.0194	.0269
Smokers who made a quit attempt in past 12 months	.4149	.0181	2,595	27,561	3.5095	1.8734	.04356	.3795	.4503
Current smokers who planned to or were thinking about quitting	.6114	.0195	2,515	26,516	4.0422	2.0105	.03186	.5732	.6496
Smokers advised to quit by a health care provider in past 12 months	.5314	.0258	1,124	12,932	2.8053	1.6749	.04855	.4808	.5820
Smokeless tobacco users who made a quit attempt in past 12 months	.3666	.0144	3,699	50,372	3.4439	1.8558	.03935	.3383	.3949
Current smokeless tobacco users who planned to or were thinking about quitting	.5473	.0154	3,613	48,870	3.5909	1.8950	.02820	.5170	.5776
Smokeless tobacco users advised to quit by a health care provider in past 12 months	.3517	.0251	1,576	24,028	4.4576	2.1113	.07136	.3025	.4010
Adults exposed to tobacco smoke at home	.2789	.0079	26,274	319,156	7.7728	2.7880	.02820	.2634	.2943
Adults exposed to tobacco smoke at the workplace	.2531	.0102	7,349	86,483	3.9280	1.9819	.04012	.2332	.2730
Adults exposed to tobacco smoke at government buildings	.0591	.0035	26,402	320,462	5.5378	2.3533	.05885	.0523	.0660
Adults exposed to tobacco smoke at private offices	.0572	.0036	26,456	321,218	6.0552	2.4607	.06257	.0502	.0642
Adults exposed to tobacco smoke at health care facility	.0837	.0040	26,451	321,100	5.3230	2.3072	.04782	.0759	.0916
Adults exposed to tobacco smoke at restaurants	.1303	.0054	26,464	321,259	6.4816	2.5459	.04119	.1198	.1409
Adults exposed to tobacco smoke in public transportation	.0496	.0028	26,423	320,822	4.2226	2.0549	.05636	.0441	.0551
Adults exposed to tobacco smoke at night club/bar	.0246	.0019	26,403	320,470	3.9743	1.9936	.07875	.0208	.0284

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Adults exposed to tobacco smoke at cinema	.0346	.0026	26,425	320,967	5.3096	2.3042	.07634	.0294	.0397
Adults exposed to tobacco smoke at any of the seven public places	.2736	.0069	26,484	321,599	6.1414	2.4782	.02527	.2600	.2871
Average monthly expenditure on manufactured cigarette (for daily cigarette smokers) (in Rs)	1329.25	179.54	830	7,928	4.8836	2.2099	.13507	976.85	1681.64
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	275.59	25.12	954	12,152	2.8666	1.6931	.09115	226.32	324.86
Adults who noticed advertisement of smoking tobacco products at point of sale	.1177	.0060	26,472	321,501	8.7249	2.9538	.05063	.1060	.1293
Adults who noticed advertisement of smoking tobacco products at places other than point of sale	.1910	.0072	26,463	321,408	8.6130	2.9348	.03782	.1768	.2051
Adults who noticed any type of cigarette promotion	.0619	.0044	26,452	321,266	8.3115	2.8830	.07028	.0534	.0704
Adults who noticed any type of <i>bidi</i> promotion	.0484	.0037	26,444	321,072	7.5556	2.7487	.07633	.0412	.0557
Adults who noticed advertisement of smokeless tobacco products at point of sale	.1047	.0059	26,476	321,537	9.5013	3.0824	.05641	.0931	.1163
Adults who noticed advertisement of smokeless tobacco products at places other than point of sale	.1971	.0079	26,463	321,390	10.0953	3.1773	.04015	.1816	.2126
Adults who noticed any type of smokeless tobacco promotion	.0658	.0050	26,443	321,144	10.3080	3.2106	.07575	.0560	.0756
Current cigarette smokers who thought about quitting because of a warning label	.6777	.0247	1,536	14,249	4.4839	2.1175	.03643	6.292	.7261
Current <i>bidi</i> smokers who thought about quitting because of a warning label	.5558	.0274	1,210	15,025	3.8466	1.9613	.04922	.5021	.6094
Current smokeless tobacco users who thought about quitting because of a warning label	.4966	.0167	3,616	48,966	4.1582	2.0392	.03356	.4639	.5293
Adults who noticed anti-smoking tobacco warning on television or radio	.8338	.0069	26,478	321,431	8.8511	2.9751	.00831	.8202	.8474
Adults who noticed anti-smokeless tobacco warning on television or radio	.7217	.0081	26,480	321,504	8.3059	2.8820	.01120	.7058	.7375
Adults who believed smoking causes serious illness	.9310	.0045	26,476	321,528	8.1520	2.8552	.00486	.9221	.9399
Adults who believed Second Hand Smoke causes serious illness	.9454	.0032	26,485	321,589	5.0342	2.2437	.00337	.9391	.9516
Adults who believed Second Hand Smoke causes serious illness in children	.9521	.0028	26,483	321,549	4.3550	2.0869	.00293	.9466	.9576
Adults who believed use of smokeless tobacco causes serious illness	.9684	.0021	26,477	321,538	3.6379	1.9073	.00216	.9643	.9725
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	.8975	.0052	26,473	321,488	7.5063	2.7398	.00580	.8873	.9077



**Appendix Table C-6:** Sampling errors for rural, GATS 2 India, 2016-17, National Sample

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R- 1.96SE)	Upper limit (R+1.96SE)
Current tobacco smokers	.1194	.0032	47,549	610,839	4.8154	2.1944	.02705	.1131	.1258
Daily tobacco smokers	.0978	.0028	47,549	610,839	4.1765	2.0437	.02818	.0924	.1032
Current cigarette smokers	.0381	.0026	47,549	610,839	9.1313	3.0218	.06891	.0330	.0433
Current <i>bid'i</i> smokers	.0930	.0028	47,549	610,839	4.5945	2.1435	.03040	.0875	.0985
Current smokeless tobacco users	.2461	.0042	47,549	610,839	4.6404	2.1542	.01712	.2379	.2544
Daily smokeless tobacco users	.2112	.0041	47,549	610,839	4.9101	2.2159	.01945	.2031	.2192
Current 'betel quid with tobacco' users	.0661	.0028	47,549	610,839	6.2969	2.5094	.04282	.0606	.0717
Current <i>khaini</i> users	.1345	.0034	47,549	610,839	4.8453	2.2012	.02535	.1278	.1412
Current <i>gutka</i> users	.0710	.0029	47,549	610,839	6.0438	2.4584	.04039	.0653	.0766
Current 'oral tobacco application' users	.0437	.0019	47,549	610,839	4.1653	2.0409	.04337	.0399	.0474
Current ' <i>paan masala</i> with tobacco' users	.0314	.0019	47,549	610,839	5.7404	2.3959	.06044	.0277	.0351
Current tobacco users (smoked and/or smokeless)	.3252	.0042	47,549	610,839	3.8411	1.9599	.01282	.3170	.3334
Current dual tobacco users (smoked and smokeless)	.0404	.0018	47,549	610,839	4.1228	2.0305	.04495	.0368	.0439
Smokers who made a quit attempt in past 12 months	.3744	.0115	7,153	75,420	4.0184	2.0046	.03067	.3519	.3969
Current smokers who planned to or were thinking about quitting	.5328	.0119	6,967	72,804	3.9592	1.9898	.02235	.5095	.5562
Smokers advised to quit by a health care provider in past 12 months	.4738	.0152	3,073	38,786	2.9280	1.7111	.03215	.4439	.5037
Smokeless tobacco users who made a quit attempt in past 12 months	.3206	.0080	11,780	152,528	3.4364	1.8537	.02501	.3049	.3364
Current smokeless tobacco users who planned to or were thinking about quitting	.4797	.0089	11,600	150,175	3.6682	1.9152	.01862	.4622	.4972
Smokeless tobacco users advised to quit by a health care provider in past 12 months	.3061	.0105	4,924	72,769	2.5468	1.5959	.03437	.2855	.3268
Adults exposed to tobacco smoke at home	.4436	.0072	47,060	606,595	10.1801	3.1906	.01630	.4294	.4578
Adults exposed to tobacco smoke at the workplace	.3426	.0115	8,417	102,807	5.0467	2.2465	.03363	.3200	.3652
Adults exposed to tobacco smoke at government buildings	.0504	.0021	47,371	609,101	4.3232	2.0792	.04107	.0463	.0544
Adults exposed to tobacco smoke at private offices	.0555	.0024	47,445	610,102	5.1731	2.2745	.04266	.0508	.0601
Adults exposed to tobacco smoke at health care facility	.0695	.0026	47,436	610,005	5.0486	2.2469	.03736	.0644	.0746
Adults exposed to tobacco smoke at restaurants	.1348	.0039	47,447	610,227	6.2094	2.4919	.02868	.1272	.1424
Adults exposed to tobacco smoke in public transportation	.0290	.0019	47,404	609,694	6.2773	2.5055	.06586	.0253	.0328
Adults exposed to tobacco smoke at night club/bar	.0197	.0012	47,336	609,137	3.5549	1.8854	.06049	.0174	.0220

Indicators	Estimate	Standard Error (SE)	Number of respondents		Design Effect	Square Root Design Effect	Coefficient of Variation	Confidence limits	
			Unweighted Count (N)	Weighted Count (WN) (000s)				Lower limit (R-1.96SE)	Upper limit (R+1.96SE)
Adults exposed to tobacco smoke at cinema	.0155	.0012	47,389	609,675	4.6496	2.1563	.07810	.0131	.0179
Adults exposed to tobacco smoke at any of the seven public places	.2475	.0045	47,513	610,559	5.3760	2.3186	.01836	.2386	.2564
Average monthly expenditure on manufactured cigarette (for daily cigarette smokers) (in Rs)	1039.63	90.67	988	7,096	3.4181	1.8488	.08722	861.66	1217.59
Average monthly expenditure on <i>bidi</i> (for daily <i>bidi</i> smokers) (in Rs)	286.35	16.24	3,915	46,544	1.6825	1.2971	.05670	254.50	318.19
Adults who noticed advertisement of smoking tobacco products at point of sale	.0810	.0034	47,535	610,754	7.7445	2.7829	.04257	.0742	.0877
Adults who noticed advertisement of smoking tobacco products at places other than point of sale	.1551	.0047	47,507	610,473	8.2835	2.8781	.03051	.1459	.1644
Adults who noticed any type of cigarette promotion	.0477	.0026	47,509	610,496	7.0940	2.6635	.05404	.0427	.0528
Adults who noticed any type of <i>bidi</i> promotion	.0566	.0028	47,510	610,535	7.3010	2.7020	.05009	.0511	.0622
Adults who noticed advertisement of smokeless tobacco products at point of sale	.0726	.0034	47,535	610,769	8.5530	2.9245	.04748	.0658	.0793
Adults who noticed advertisement of smokeless tobacco products at places other than point of sale	.1520	.0047	47,500	610,325	8.2260	2.8681	.03077	.1429	.1612
Adults who noticed any type of smokeless tobacco promotion	.0525	.0030	47,519	610,643	8.5683	2.9272	.05646	.0467	.0584
Current cigarette smokers who thought about quitting because of a warning label	.5828	.0205	2,699	23,292	4.5452	2.1319	.03519	.5426	.6231
Current <i>bidi</i> smokers who thought about quitting because of a warning label	.5333	.0124	4,859	56,806	2.9449	1.7161	.02317	.5090	.5575
Current smokeless tobacco users who thought about quitting because of a warning label	.4503	.0094	11,613	150,289	4.1318	2.0327	.02095	.4318	.4688
Adults who noticed anti-smoking tobacco warning on television or radio	.5985	.0061	47,540	610,777	7.4011	2.7205	.01012	.5866	.6104
Adults who noticed anti-smokeless tobacco warning on television or radio	.5255	.0062	47,538	610,808	7.5353	2.7450	.01184	.5133	.5377
Adults who believed smoking causes serious illness	.9208	.0029	47,541	610,815	5.5840	2.3631	.00315	.9151	.9265
Adults who believed Second Hand Smoke causes serious illness	.9135	.0027	47,546	610,822	4.3373	2.0826	.00291	.9083	.9187
Adults who believed Second Hand Smoke causes serious illness in children	.9229	.0026	47,548	610,839	4.4772	2.1159	.00278	.9178	.9279
Adults who believed use of smokeless tobacco causes serious illness	.9501	.0020	47,542	610,772	4.0959	2.0238	.00211	.9462	.9541
Adults who believed use of smokeless tobacco during pregnancy causes harm to foetus	.8694	.0037	47,532	610,640	5.9188	2.4329	.00428	.8621	.8767





## APPENDIX D

# GLOSSARY OF TERMS



Questionnaire and Indicator Terminology	
Adults	Aged 15 or above
Areca nut	Areca nut is obtained from the fruit of the <i>Areca catechu</i> tree. The outer pericarp of the ripe fruit, which is orange-yellow, is removed to separate the nut, which is used fresh in Kerala, Karnataka, West Bengal and Assam and after sun-drying, curing or baking elsewhere in India.
<i>Bajjar</i>	Dry snuff
Beliefs about the dangers of smokeless tobacco	Respondents who believed that use of smokeless tobacco causes serious illness and specific diseases, i.e., oral cancer and dental diseases.
Beliefs about the dangers of smoking tobacco	Respondents who believed that tobacco smoking causes serious illness and specific diseases, i.e., stroke, heart attack, lung cancer and tuberculosis.
Betel leaves	Betel leaves are an indispensable part of <i>paan</i> . The betel vine is a creeper, and it is often grown next to areca-nut trees, which provide support, or on wooden scaffoldings.
<i>Bidi</i>	It is made by rolling a dried, rectangular piece of temburni leaf ( <i>Diospyros melanoxylon</i> ) with 0.15-0.25 g of sun dried, flaked tobacco into a conical shape and securing the roll with a thread.
CAD/CHD	Coronary Artery Disease or Coronary Heart Disease involves narrowing of arteries supplying the heart muscles due to fatty deposits (atherosclerosis) in the coronary arteries.
CDC	U.S. Centers for Disease Control and Prevention (at Atlanta, USA)
Cheroot	It is like a cigar with two closed ends.
<i>Chillum</i>	The <i>chillum</i> is a straight, conical pipe made of clay, 10-14 cm long.
<i>Chutta</i>	A hand-rolled cigar smoked in reverse with the lit end inside the mouth. The name <i>chutta</i> in Telugu (spoken in Andhra Pradesh) may have come from the Tamil (spoken in Tamil Nadu) word <i>shruttu</i> , meaning 'to roll'.
Confidence interval	The range of possible values within which true population value could lie with a known degree of probability.
COPD/COLD	Chronic Obstructive Pulmonary Disease or Chronic Obstructive Lung Disease is a group of lung diseases involving limited airflow and varying degrees of air sac enlargement, airway inflammation and lung tissue destruction.
COTPA	The Cigarettes and Other Tobacco Products Act, 2003, India.
Current smokeless tobacco user	Person who currently uses any smokeless tobacco product, either daily or occasionally.
Current tobacco smoker	Person who currently smokes any tobacco product, either daily or occasionally.
Daily smokeless tobacco user	Person who currently uses any smokeless tobacco product every day.
Daily tobacco smoker	Person who currently smokes any tobacco product every day.
<i>Dhumti</i>	It is a kind of a conical cigar made by rolling tobacco in the leaf of a jack-fruit tree ( <i>Artocarpus integrifolia</i> L.), occasionally in a dried leaf of a banana plant ( <i>Musa paradisiaca</i> L.) or in the green leaf of a <i>hansali</i> plant ( <i>Grewia microcos</i> L.).
ETS	Environmental tobacco smoke (second hand smoke) is a complex mixture of chemical constituents and particulates released into the atmosphere from the burning tip of a cigarette, pipe or cigar including the smoke exhaled by the smoker.
Ever daily smoker	Person may or may not be a current smoker. Includes persons that are 'current daily smokers'; 'current occasional smokers, formerly daily' or 'current non-smokers, formerly daily smokers'

Questionnaire and Indicator Terminology	
Exposure	In this document 'exposure' refers to tobacco use, passive smoking or skin contact with green tobacco.
Exposure to anti-smokeless tobacco information	Respondents who have noticed any information about the dangers of smokeless tobacco or non-smoking tobacco, or that encourages quitting of smokeless tobacco products, in the last 30 days, in the areas of interest: newspapers/magazines, television, radio, billboards, public transportation, stores and/or elsewhere.
Exposure to anti-smoking information	Respondents who have noticed any information about the dangers of smoking or that encourages quitting of smoking, in the last 30 days, in the areas of interest: newspapers/magazines, television, radio, billboards, public transportation, stores and/or elsewhere.
Exposure to Second Hand Smoke at home	Indicates percentage of respondents who reported someone smoking inside his/her home (daily, weekly, monthly or anytime). This does not include areas outside such as patios, balcony, garden, etc. that are not fully enclosed.
Exposure to Second Hand Smoke at the work place	Indicates percentage of respondents who reported someone smoking at work indoors or both indoors and outdoors, in the past 30 days. This is among those respondents who work outside of the home and who usually work indoors or both indoors and outdoors.
Exposure to Second Hand Smoke in public places	Indicates percentage of respondents who reported someone smoking inside the public places of interest, in the past 30 days: Government Buildings: Covering indoor areas which are non-smoking areas by the national smoke free laws. Health Care Facilities: Covering indoor areas of both public and private health care facilities which are non-smoking areas by the national smoke free laws. Restaurants/Public eating place: Covering food and/or beverage selling place inside the building, not including place in front of any building and wayside. Public Transportation: All public transport with both air conditioned and non-air conditioned. Private Offices: Covering indoor areas of private offices/workplaces Night club/Bar: Covering indoor areas of all night clubs and bars Cinema: Covering indoor areas of cinema hall or theatre
FCTC	Framework Convention on Tobacco Control
Former daily smokeless tobacco user	Person does not currently use smokeless tobacco but had previously used smokeless tobacco products daily over a period of one month or more.
Former daily smoker	Person is currently a non-smoker but had previously smoked daily over a period of one month or more.
<i>Gudakhu</i>	A paste made of tobacco and molasses.
<i>Gutka</i>	Mixture of tobacco, crushed areca nut (also called betel nut), spices, and other ingredients.
GATS	Global Adult Tobacco Survey. GATS 1 – Global Adult Tobacco Survey, India 2009-10. GATS 2 – Global Adult Tobacco Survey, India 2016-17.
<i>Gul</i>	A pyrolysed tobacco product
GIDS	Giri Institute of Development Studies
Gol	Government of India
GSS	General Survey Software
GTSS	Global Tobacco Surveillance System
GYTS	Global Youth Tobacco Survey
Health Care Provider (HCP)	Healthcare providers include various health professionals such as medical doctors, nurses, pharmacist, health professionals, etc.
<i>Hukkah</i>	Hubble-bubble or narghile. <i>Hukkah</i> is written as <i>hukkah</i> or <i>hookah</i> as well. <i>Hukkah</i> has been used uniformly unless where anecdotes and historical records are mentioned. The <i>hukkah</i> is an Indian water pipe.
HRR	Household Response Rate
Interest in quitting smokeless tobacco use	Current users of smokeless tobacco who are planning or thinking about quitting smokeless tobacco use within the next month, 12 months, or someday.
Interest in quitting smoking	Current tobacco smokers who are planning or thinking about quitting smoking within the next month, 12 months, or someday.
IRB	Institutional Review Board

Questionnaire and Indicator Terminology	
JHSPH	Johns Hopkins Bloom berg School of Public Health
<i>Khaini</i>	Mixture of sun-dried tobacco and slaked lime
Life expectancy	Life expectancy is the expected value of the lifetime in years of an individual in a given group at birth.
<i>Mishri</i>	Roasted, powdered preparation made by baking tobacco on a hot metal plate until it is uniformly black.
MoHFW	Ministry of Health and Family Welfare
Mortality rate	The death rate in a population. The ratio of the number of deaths to the population at risk of dying.
MPOWER	Monitor tobacco use and prevention policies, Protect people from tobacco smoke, Offer help to quit tobacco use, Warn about the dangers of tobacco, Enforce bans on tobacco advertising, promotion & sponsorship, Raise taxes on tobacco
NCD	Non-Communicable Disease
NFHS	National Family Health Survey
NHSDAA	National Household Survey of Drugs and Alcohol Abuse in India
Non-smoker	Person currently does not smoke at all.
Non-user of smokeless tobacco	Person currently does not use smokeless tobacco at all.
NSS	National Sample Survey
NSSO	National Sample Survey Organization
NTCP	National Tobacco Control Programme
Noticed <i>bidi</i> advertisement and promotion	<ul style="list-style-type: none"> <li>❖ Respondents who have noticed any advertisement or signs promoting <i>bidi</i>, in the last 30 days, in the areas of interest: stores where the products are sold, television, radio, billboards, newspapers/magazines, internet and/or elsewhere.</li> <li>❖ Respondents who noticed any free samples of cigarettes with a brand name or logo of <i>bidi</i>.</li> </ul>
Noticed cigarette advertisement and promotion	<ul style="list-style-type: none"> <li>❖ Respondents who have noticed any advertisement or signs promoting cigarettes, in the last 30 days, in the areas of interest: stores where the products are sold, television, radio, billboards, newspapers/magazines, internet and/or elsewhere.</li> <li>❖ Respondents who noticed any free samples of cigarettes with a brand name or logo of cigarette.</li> </ul>
Noticed smokeless tobacco marketing/advertisement and promotion	<ul style="list-style-type: none"> <li>❖ Respondents who have noticed any advertisement or signs promoting smokeless tobacco in the last 30 days, in the areas of interest: stores where the products are sold, television, radio, billboards, posters, newspapers/magazines, cinemas, internet, public transportation, public walls and/or somewhere else.</li> <li>❖ Respondents who have noticed any promotion of smokeless tobacco in the last 30 days, using free samples, at sale prices, coupons, free gifts/discount on other products, clothing/item with brand name or logo, mail promotion and surrogate advertisement.</li> </ul>
Occasional smokeless tobacco user	Person who currently uses a smokeless tobacco product less than daily.
Occasional smoker	Person who currently smokes less than daily.
Pharmacotherapy	Nicotine replacement therapy (NRT) or Prescription medication (such as Bupropion) used to support cessation of tobacco use.
<i>Paan</i>	Betel quid
<i>Paan Masala</i>	<i>Paan Masala</i> is a commercial preparation containing areca nut, slaked lime, catechu and condiments, with or without powdered tobacco
PPS	Probability Proportional to Size Sampling
Prevalence	The term prevalence refers to the number of existing cases of a disease or condition in a population at some designated point of time or period of time.
PRR	Person-level Response Rate

Questionnaire and Indicator Terminology	
PSU	Primary Sample Units
QRC	Questionnaire Review Committee
Quit attempt	Current tobacco smokers and users of smokeless tobacco who tried to quit during the past 12 months and former tobacco smokers and smokeless tobacco users who have been abstinent for < 12 months.
Quit ratio (among daily smokers)	Indicates how many 'ever daily smokers' were able to successfully quit ('former daily smoker'/'ever daily smoker')
Quit ratio (among daily users of smokeless tobacco)	Indicates how many 'ever daily users of smokeless tobacco' were able to successfully quit ('former daily users of smokeless tobacco'/'ever daily users of smokeless tobacco')
RA	Research Agency
RGI	Registrar General of India
RTI International	Research Triangle Initiative International
Second Hand Smoke (SHS)	Inhalation of smoke from smoked tobacco products used by others.
Smokeless tobacco use status	Classified into three categories: <ol style="list-style-type: none"> <li>1) 'Current/Daily smokeless user' means the person uses at least one smokeless tobacco product every day, over a period of one month or more.</li> <li>2) 'Current/Occasional smokeless user' means the person uses smokeless tobacco products less than daily (either formerly daily or never daily).</li> <li>3) 'Non-user of smokeless tobacco' means the person currently does not use smokeless tobacco at all. This includes 'Former daily user' and 'Never daily user'. (Currently a non-user of smokeless tobacco' and has never used smokeless tobacco product daily, but was former occasionally user or never user of smokeless tobacco).</li> </ol>
Smoking status/Smoking frequency	Classified into three categories: <ol style="list-style-type: none"> <li>1) 'Current/Daily smoker' means the person currently smokes at least one tobacco product every day, over a period of one month or more.</li> <li>2) 'Current/Occasional smoker' means the person currently smokes less than daily (either formerly daily or never daily).</li> <li>3) 'Non-smoker' means the person currently does not smoke at all. This includes 'Former daily smoker' (currently a non-smoker but had previously smoker daily) and 'Never daily smoker' (currently a non-smoker and has never smoked daily, but instead occasionally or never smoker).</li> </ol>
SRC	Sample Review Committee
Tobacco Products	All types of tobacco products which can be categorized into: <ol style="list-style-type: none"> <li>1) Smoked tobacco includes: manufactured cigarettes, hand-rolled cigarettes, <i>bidi</i> pipes full of tobacco, cigars/<i>cheroots</i>/cigarillos, <i>hookah</i>, and any other reported smoked tobacco products.</li> <li>2) Smokeless tobacco includes: betel quid, <i>khaini</i>, <i>gutka</i>, snuff, <i>paan masala</i>, and any other reported smokeless tobacco products – which are eaten, chewed, applied orally or inhaled.</li> </ol>
TAMC	Technical Advisory and Monitoring Committee
TFI	Tobacco Free Initiative
TISS	Tata Institute of Social Sciences
TOT	Training of Trainers
TRR	Total Response Rate
UT	Union Territory
WHO	World Health Organization
WHO- SEARO	WHO South East Asia Regional Office

## APPENDIX E

# GATS 2016-17 QUESTIONNAIRE



Household and Individual Questionnaire

### GATS Core Questionnaire Formatting Conventions

Text in **RED FONT** = Programming logic and skip instructions.

Text in **[ALL CAPS SURROUNDED BY BRACKETS]** = Specific question instructions for interviewers—not to be read to the respondents.

Text underlined = Words that interviewers should emphasize when reading to respondents.

### Household Questionnaire

INTRO. [THE HOUSEHOLD SCREENING RESPONDENT SHOULD BE 18 YEARS OF AGE OR OLDER AND YOU MUST BE CONFIDENT THAT THIS PERSON CAN PROVIDE ACCURATE INFORMATION ABOUT ALL MEMBERS OF THE HOUSEHOLD. IF NEEDED, VERIFY THE AGE OF THE HOUSEHOLD SCREENING RESPONDENT TO MAKE SURE HE/SHE IS 18 YEARS OF AGE OR OLDER.

THE HOUSEHOLD SCREENING RESPONDENT CAN BE LESS THAN 18 YEARS OLD, ONLY IF NO HOUSEHOLD MEMBERS ARE 18 YEARS OF AGE OR OLDER.]

INTRO1. I am working with Tata Institute of Social Sciences (TISS), Mumbai and this institution is conducting a survey on adult tobacco use behavior in India. This information will be used for public health purposes by the Ministry of Health and Family Welfare, Govt. of India.

All houses selected for this survey were chosen from a scientific sample and your household has been selected to participate. It is very important to the success of this project that each participates in the survey. All information gathered will be kept strictly confidential. I have a few questions to find out who in your household is eligible to participate.

Do you agree to participate?

YES  1 → **GO TO HH1**

NO  2 → **END INTERVIEW**

HH1. First, I'd like to ask you a few questions about your household. In total, how many persons live in this household?

[INCLUDE ANYONE WHO CONSIDERS THIS HOUSEHOLD THEIR USUAL PLACE OF RESIDENCE]

HH2. How many of these household members are 15 years of age or older?

[IF HH2 = 00 (NO HOUSEHOLD MEMBERS ≥ 15 IN HOUSEHOLD)]

[THERE ARE NO ELIGIBLE HOUSEHOLD MEMBERS.

THANK THE RESPONDENT FOR HIS/HER TIME.

THIS WILL BE RECORDED IN THE RECORD OF CALLS AS A CODE 201.]

HH3. How many (male/female) household members are 15 years of age or older?

[IF HH3 = 00 (NO MALE/FEMALE HOUSEHOLD MEMBERS ≥ 15 IN HOUSEHOLD)]

[THERE ARE NO ELIGIBLE HOUSEHOLD MEMBERS.

THANK THE RESPONDENT FOR HIS/HER TIME.

THIS WILL BE RECORDED IN THE RECORD OF CALLS AS A CODE 201.]

HH4. I now would like to collect information about the {males/women} that live in this household who are 15 years of age or older. Let's start listing the {males/women} from oldest to youngest.

a. What is this {oldest/next oldest} person's first name? \_\_\_\_\_

b. What is this person's age?

[IF RESPONDENT DOESN'T KNOW, PROBE FOR AN ESTIMATE]

[IF REPORTED AGE IS 15 THROUGH 17, BIRTH DATE IS ASKED]

HH4c. What is the month of this person's date of birth?

HH4cYEAR. What is the year of this person's date of birth?

[IF DON'T KNOW, ENTER 7777 IF REFUSED, ENTER 9999]

d. [RECORD GENDER (FOR VERIFICATION IF NECESSARY)]

MALE  1

FEMALE  2

e. Does this person currently smoke tobacco, including *Bidis*, cigarettes, *hukkah*, cigars, etc.?

YES  1

NO  2

DON'T KNOW  7

REFUSED  9

f. Does this person currently use smokeless tobacco, including betel quid with tobacco, *sada/surti*, *khaini* or tobacco lime mixture, *gutkha*, *gul*, *mishri*, etc.?

YES  1

NO  2

DON'T KNOW  7

REFUSED  9

[REPEAT HH4a – HH4f FOR EACH PERSON REPORTED IN HH2]

HH5. [NAME OF THE SELECTED ELIGIBLE PERSON IS:

[FILL SELECTED HH MEMBER'S FIRST NAME]

ASK IF SELECTED RESPONDENT IS AVAILABLE AND IF SO, PROCEED TO THE INDIVIDUAL QUESTIONNAIRE.

IF SELECTED RESPONDENT IS NOT AVAILABLE, MAKE AN APPOINTMENT AND RECORD IT AS A COMMENT ON RECORD OF CALLS.]

### Individual Questionnaire

CONSENT 1. [CHECK AGE OF SELECTED RESPONDENT FROM THE HOUSEHOLD QUESTIONNAIRE CASE DETAILS, AND SELECT THE APPROPRIATE CATEGORY BELOW:]

15-17  1 [GO TO CONSENT2]

18 OR OLDER  2 [GO TO CONSENT5]

EMANCIPATED MINOR (15-17)  3 [GO TO CONSENT5]

CONSENT 2. Before starting the interview, I need to obtain consent from a parent or guardian of [NAME OF RESPONDENT] and from [NAME OF RESPONDENT].

[IF BOTH SELECTED RESPONDENT AND PARENT/GUARDIAN ARE AVAILABLE, CONTINUE WITH INTERVIEW.

IF PARENT/GUARDIAN IS NOT AVAILABLE, BREAK-OFF INTERVIEW AND SCHEDULE AN APPOINTMENT TO RETURN.

IF MINOR RESPONDENT IS NOT AVAILABLE, CONTINUE WITH OBTAINING PARENTAL CONSENT.]

CONSENT 3. [READ THE FOLLOWING TO THE PARENT/GUARDIAN AND SELECTED RESPONDENT (IF AVAILABLE):]

I am working with the Tata Institute of Social Sciences (TISS), Mumbai. This institution is collecting information about tobacco use in India. This information will be used for public health purposes by the Ministry of Health and Family Welfare, Government of India.

Your household and [NAME OF RESPONDENT] have been selected at random. [NAME OF RESPONDENT] responses are very important to us and the community, as these answers will represent many other persons.

The interview will last around 30 minutes. [NAME OF RESPONDENT] participation in this survey is entirely voluntary. The information that [NAME OF RESPONDENT] will provide will be kept strictly confidential and [NAME OF RESPONDENT] will not be identified by his/her responses. Personal information will not be shared with anyone else, not even other family members including you. [NAME OF RESPONDENT] can withdraw from the study at any time, and may refuse to answer any question.

We will leave the necessary contact information with you. If you have any questions about this survey, you can contact the telephone numbers listed.

If you agree with [NAME OF RESPONDENT]'s participation in this survey, we will conduct a private interview with him/her.

[ASK PARENT/GUARDIAN:] Do you agree with [NAME OF RESPONDENT]'s participation?

YES  1 [GO TO CONSENT4]

NO  2 [END INTERVIEW]

CONSENT 4. [WAS THE SELECTED MINOR RESPONDENT PRESENT?]

PRESENT  1 [GO TO CONSENT6]

NOT PRESENT  2 [GO TO CONSENT5]

CONSENT 5. [READ TO THE SELECTED RESPONDENT:]

I am working with the Tata Institute of Social Sciences (TISS), Mumbai. This institution is collecting information about tobacco use in India. This information will be used for public health purposes by the Ministry of Health and Family Welfare, Government of India.

Your household and you have been selected at random. Your responses are very important to us and the community, as these answers will represent many other persons. The interview will last around 30 minutes. Your participation in this survey is entirely voluntary. The information that you will provide us will be kept strictly confidential, and you will not be identified by your responses. Personal information will not be shared with anyone else, not even other family members. You can withdraw from the study at any time, and may refuse to answer any question.

We will leave the necessary contact information with you. If you have any questions about this survey, you can contact the telephone numbers listed.

{FILL IF CONSENT4=2: Your parent/guardian has given his/her permission for you to participate in this study.}

If you agree to participate, we will conduct a private interview with you.

CONSENT 6. [ASK SELECTED RESPONDENT:] Do you agree to participate?

YES  1 [PROCEED WITH INTERVIEW]

NO  2 [END INTERVIEW]

INTLANG. [INTERVIEW LANGUAGE]

<input type="checkbox"/> 1 ASSAMESE	<input type="checkbox"/> 11 MALAYALAM
<input type="checkbox"/> 2 BENGALI	<input type="checkbox"/> 12 MANIPURI OR MEITHEI
<input type="checkbox"/> 3 ENGLISH	<input type="checkbox"/> 13 MARATHI
<input type="checkbox"/> 4 GARO	<input type="checkbox"/> 14 MIZO
<input type="checkbox"/> 5 GUJARATI	<input type="checkbox"/> 15 NAGAMESE
<input type="checkbox"/> 6 HINDI	<input type="checkbox"/> 16 NEPALESE
<input type="checkbox"/> 7 KANNADA	<input type="checkbox"/> 17 ORIYA
<input type="checkbox"/> 8 KASHMIRI	<input type="checkbox"/> 18 PUNJABI
<input type="checkbox"/> 9 KHASI	<input type="checkbox"/> 19 TAMIL
<input type="checkbox"/> 10 KONKANI	<input type="checkbox"/> 20 TELUGU

## SECTION A. BACKGROUND CHARACTERISTICS

A00. I am going to first ask you a few questions about your background.

A01. [RECORD GENDER FROM OBSERVATION. ASK IF NECESSARY.]

MALE  1

FEMALE  2

A02a. What is the month of your date of birth?

01  1

02  2

03  3

04  4

05  5

06  6

07  7

08  8

09  9



- 10  10
- 11  11
- 12  12
- DON'T KNOW  77
- REFUSED  99

A02b. What is the year of your date of birth?  
 [IF DON'T KNOW, ENTER 7777 IF REFUSED, ENTER 9999]

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[IF MONTH=77/99 OR YEAR=7777/9999, ASK A03. OTHERWISE SKIP TO A04.]

A03. How old are you?  
 [IF RESPONDENT IS UNSURE, PROBE FOR AN ESTIMATE AND RECORD AN ANSWER.  
 IF REFUSED, BREAK-OFF AS WE CANNOT CONTINUE INTERVIEW WITHOUT AGE]

--	--	--	--

A03a. [WAS RESPONSE ESTIMATED?]

- YES  1
- NO  2
- DON'T KNOW  7

A04. What is the highest level of education you have completed?  
 [SELECT ONLY ONE CATEGORY]

- NO FORMAL SCHOOLING  1
- LESS THAN PRIMARY SCHOOL COMPLETED  2
- PRIMARY SCHOOL COMPLETED  3
- LESS THAN SECONDARY SCHOOL COMPLETED  4
- SECONDARY SCHOOL COMPLETED  5
- HIGHER SECONDARY SCHOOL COMPLETED  6
- COLLEGE/UNIVERSITY COMPLETED  7
- POST GRADUATE DEGREE COMPLETED  8
- DON'T KNOW  77
- REFUSED  99

A05. Which of the following best describes your main work status over the past 12 months? Government employee, non-government employee, daily wage/casual labourer, self-employed, student, homemaker, retired, unemployed-able to work, or unemployed-unable to work?

[INCLUDE SUBSISTENCE FARMING AS SELF-EMPLOYED]

- GOVERNMENT EMPLOYEE  1
- NON-GOVERNMENT EMPLOYEE  2
- DAILY WAGE/CASUAL LABOURER  3
- SELF-EMPLOYED  4
- STUDENT  5
- HOMEMAKER  6
- RETIRED  7
- UNEMPLOYED, ABLE TO WORK  8

UNEMPLOYED, UNABLE TO WORK  9  
 DON'T KNOW  77  
 REFUSED  99

A06. Please tell me whether this household or any person who lives in the household has the following items:

	YES	NO	DON'T KNOW	REFUSED
	▼	▼	▼	▼
a. Electricity?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
n. Electric fan?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
m. Air conditioner?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. Refrigerator?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
j. Washing machine?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. Radio?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Television?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
k. Computer/laptop?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
l. Internet connection?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
i. Moped/scooter/motorcycle?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
h. Car?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. Flush toilet?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. Fixed telephone?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. Cell telephone?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

A09. Do you belong to a scheduled caste, scheduled tribe, other backward caste, or none of these groups?

SCHEDULED CASTE  1  
 SCHEDULED TRIBE  2  
 OTHER BACKWARD CASTE  3  
 NONE OF THESE  4  
 DON'T KNOW  7  
 REFUSED  9

A10. What is your religion?

HINDU  1  
 MUSLIM  2  
 CHRISTIAN  3  
 BUDDHISM  4  
 JAIN  5  
 SIKH  6  
 OTHER  7 → A10a.[SPECIFY]: \_\_\_\_\_  
 NONE  8  
 DON'T KNOW  77  
 REFUSED  99

- A11. What is your marital status? Would you say single, married, separated, divorced, or widowed?
- SINGLE  1
- MARRIED  2
- SEPARATED  3
- DIVORCED  4
- WIDOWED  5
- REFUSED  9

## SECTION B. TOBACCO SMOKING

B00. I would now like to ask you some questions about smoking tobacco, including *Bidis*, cigarettes, cigars, cheroots, rolled cigarettes, tobacco rolled in maize leaf and newspaper, *hukkah*, pipes, chillum, chutta.

Please do not answer about electronic cigarettes and smokeless tobacco at this time.

- B01. Do you currently smoke tobacco on a daily basis, less than daily, or not at all?
- DAILY  1 → SKIP TO B04
- LESS THAN DAILY  2
- NOT AT ALL  3 → SKIP TO B03
- DON'T KNOW  7 → SKIP TO NEXT SECTION (WP)
- REFUSED  9 → SKIP TO NEXT SECTION (WP)

- B02. Have you smoked tobacco daily in the past?
- YES  1 → SKIP TO B08
- NO  2 → SKIP TO B10
- DON'T KNOW  7 → SKIP TO B10
- REFUSED  9 → SKIP TO B10

- B03. In the past, have you smoked tobacco on a daily basis, less than daily, or not at all?  
[IF RESPONDENT HAS DONE BOTH "DAILY" AND "LESS THAN DAILY" IN THE PAST, CHECK "DAILY"]
- DAILY  1 → SKIP TO B11
- LESS THAN DAILY  2 → SKIP TO B13
- NOT AT ALL  3 → SKIP TO NEXT SECTION (WP)
- DON'T KNOW  7 → SKIP TO NEXT SECTION (WP)
- REFUSED  9 → SKIP TO NEXT SECTION (WP)

### [CURRENT DAILY SMOKERS]

B04. How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

[IF B04 = 99, ASK B05. OTHERWISE SKIP TO B06.]

B05. How many years ago did you first start smoking tobacco daily?

[IF REFUSED, ENTER 99]

--	--

B06. On average, how many of the following products do you currently smoke each day? Also, let me know if you smoke the product, but not every day.

[IF RESPONDENT REPORTS SMOKING THE PRODUCT BUT NOT EVERY DAY, ENTER 888  
IF RESPONDENT REPORTS IN PACKS, PROBE TO FIND OUT HOW MANY ARE IN EACH AND  
CALCULATE TOTAL NUMBER]

a.	Manufactured cigarettes?				PER DAY
a1.	[IF B06a=888] On average, how many manufactured cigarettes do you currently smoke each week?				PER WEEK
b.	Rolled tobacco in paper or leaf?				PER DAY
b1.	[IF B06b=888] On average, how many rolled tobacco in paper or leaf do you currently smoke each week?				PER WEEK
c.	<i>Bidis</i> ?				PER DAY
c1.	[IF B06c=888] On average, how many <i>Bidis</i> do you currently smoke each week?				PER WEEK
e.	Cigars, cheroots, or cigarillos?				PER DAY
e1.	[IF B06e=888] On average, how many cigars, cheroots, or cigarillos do you currently smoke each week?				PER WEEK
f.	Number of <i>hukkah</i> sessions per day?				PER DAY
f1.	[IF B06f=888] On average, how many <i>hukkah</i> sessions do you currently participate in each week?				PER WEEK
g.	Any others? (→ g1. Please specify the other type you currently smoke each day: _____)				PER DAY
g2.	[IF B06g=888] On average, how many [FILL PRODUCT] do you currently smoke each week?				PER WEEK

B07. How soon after you wake up do you usually have your first smoke? Would you say within 5 minutes, 6 to 30 minutes, 31 to 60 minutes, or more than 60 minutes?

- WITHIN 5 MINUTES  1  
 6 TO 30 MINUTES  2  
 31 TO 60 MINUTES  3  
 MORE THAN 60 MINUTES  4  
 REFUSED  9

[SKIP TO NEXT SECTION (WP)]

[CURRENT LESS THAN DAILY SMOKERS]

B08. How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

[IF B08 = 99, ASK B09. OTHERWISE SKIP TO B10.]

B09. How many years ago did you first start smoking tobacco daily?

--	--

[IF REFUSED, ENTER 99]

B10. How many of the following do you currently smoke during a usual week?

[IF RESPONDENT REPORTS DOING THE ACTIVITY WITHIN THE PAST 30 DAYS, BUT LESS THAN ONCE PER WEEK, RECORD 888

IF RESPONDENT REPORTS IN PACKS, PROBE TO FIND OUT HOW MANY ARE IN EACH AND  
CALCULATE TOTAL NUMBER]

- |   |  |  |  |          |
|---|--|--|--|----------|
| a. Manufactured cigarettes?                   |  |  |  | PER WEEK |
| b. Rolled tobacco in paper or leaf?           |  |  |  | PER WEEK |
| c. Bidis?                                     |  |  |  | PER WEEK |
| e. Cigars, cheroots, or cigarillos?           |  |  |  | PER WEEK |
| f. Number of <i>hukkah</i> sessions per week? |  |  |  | PER WEEK |
| g. Any others?                                |  |  |  | PER WEEK |

→ g1. Please specify the other type you currently smoke during a usual week:

[SKIP TO NEXT SECTION (WP)]

[FORMER SMOKERS]

B11. How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

[IF B11 = 99, ASK B12. OTHERWISE SKIP TO B13a.]

B12. How many years ago did you first start smoking tobacco daily?

[IF REFUSED, ENTER 99]

--	--

B13a. How long has it been since you stopped smoking?

[ONLY INTERESTED IN WHEN RESPONDENT STOPPED SMOKING REGULARLY - DO NOT INCLUDE RARE INSTANCES OF SMOKING]

ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- |                 |  |
|-----------------|--|
| YEARS           | <input type="checkbox"/> 1                             |
| MONTHS          | <input type="checkbox"/> 2                             |
| WEEKS           | <input type="checkbox"/> 3                             |
| DAYS            | <input type="checkbox"/> 4                             |
| LESS THAN 1 DAY | <input type="checkbox"/> 5 → SKIP TO B14               |
| DON'T KNOW      | <input type="checkbox"/> 7 → SKIP TO NEXT SECTION (WP) |
| REFUSED         | <input type="checkbox"/> 9 → SKIP TO NEXT SECTION (WP) |

B13b. [ENTER NUMBER OF (YEARS/MONTHS/WEEKS/DAYS)]

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[IF B13a/b < 1 YEAR (< 12 MONTHS), THEN CONTINUE WITH B14. OTHERWISE SKIP TO NEXT SECTION (WP).]

B14. Have you visited a doctor or other health care provider in the past 12 months for any reason of personal health?

- |         |  |
|---------|--|
| YES     | <input type="checkbox"/> 1               |
| NO      | <input type="checkbox"/> 2 → SKIP TO B18 |
| REFUSED | <input type="checkbox"/> 9 → SKIP TO B18 |

B15. How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, 6 or more times?

- |        |                            |
|--------|----------------------------|
| 1 OR 2 | <input type="checkbox"/> 1 |
| 3 TO 5 | <input type="checkbox"/> 2 |

	6 OR MORE	<input type="checkbox"/> 3
	REFUSED	<input type="checkbox"/> 9
B16.	During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke tobacco?	
	YES	<input type="checkbox"/> 1
	NO	<input type="checkbox"/> 2 → SKIP TO B18
	REFUSED	<input type="checkbox"/> 9 → SKIP TO B18
B17.	During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?	
	YES	<input type="checkbox"/> 1
	NO	<input type="checkbox"/> 2
	REFUSED	<input type="checkbox"/> 9
B18.	During the past 12 months, did you use any of the following to try to stop smoking tobacco?	
		YES NO REFUSED
		▼ ▼ ▼
	a. Counseling, including at a smoking cessation clinic?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	b. Nicotine replacement therapy, such as the patch or gum?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	c. Other prescription medications?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	d. Traditional medicines, for example Ayurvedic, Homeopathic, Unani?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	d1. m-Cessation?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	e. A quit line or a smoking telephone support line?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	f. Switching to smokeless tobacco?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	h. Try to quit without assistance?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	g. Anything else?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9
	→ g1. Please specify what you used to try to stop smoking:	

## SECTION WP. WATERPIPE TOBACCO SMOKING

ROUTING: B06f/B10f ask for the number of water pipe smoking sessions per day/week

- ↻ IF B01=1 AND B06f>0 AND <888 (CURRENT DAILY WATER PIPE SMOKERS), GO TO WP5
- ↻ IF B01=1 AND B06f=888 (CURRENT LESS THAN DAILY WATER PIPE SMOKERS), GO TO WP5
- ↻ IF B01=1 AND B06f=0 (CURRENT DAILY SMOKER, BUT NO WP), GO TO NEXT SECTION (EC)
- ↻ IF B01=2 AND B10f>0 AND <888 (CURRENT LESS THAN DAILY WATER PIPE SMOKERS), GO TO WP0
- ↻ IF B01=2 AND B10f=888 (CURRENT LESS THAN WEEKLY WATER PIPE SMOKERS), GO TO WP5
- ↻ IF B01=2 AND B10f=0 (CURRENT LESS THAN DAILY SMOKER, BUT NO WP), GO TO NEXT SECTION (EC)
- ↻ IF B01=3 AND B03=3 (NEVER SMOKERS), GO TO WP0
- ↻ IF B01=3 AND B03=1 OR 2 (FORMER SMOKERS), GO TO WP0
- ↻ ELSE, GO TO WP0

WP0. I would now like to ask you some questions about smoking *hukkah*, that is, using a water pipe to smoke tobacco.

Do you currently smoke *hukkah* (using a water pipe to smoke tobacco) on a daily basis, less than daily, or not at all?

- DAILY  1  
 LESS THAN DAILY  2  
 NOT AT ALL  3 → SKIP TO NEXT SECTION (EC)  
 REFUSED  9 → SKIP TO NEXT SECTION (EC)

WP5. (I would now like to ask you some questions about smoking *hukkah*, that is, using a water pipe to smoke tobacco.)

The last time you smoked *hukkah*, how long did you participate in the *hukkah* smoking session?

[ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- HOURS  1  
 MINUTES  2  
 DON'T KNOW  7 → SKIP TO WP6  
 REFUSED  9 → SKIP TO WP6

WP5a. [ENTER NUMBER OF (HOURS/MINUTES)]

--	--

WP6. The last time you smoked *hukkah*, how many other people did you share the same pipe with during the session?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

WP8. The last time you smoked *hukkah*, where did you smoke it?

- HOME  1  
 COFFEE SHOP  2  
 BAR/CLUB  3  
 RESTAURANT  4  
 OTHER  5 → WP8 a. Specify other place: \_\_\_\_\_  
 DON'T KNOW  7  
 REFUSED  9

WP9. The last time you smoked *hukkah*, did you smoke it with flavored tobacco, unflavored tobacco, or both?

- FLAVORED  1  
 UNFLAVORED  2  
 BOTH  3  
 DON'T KNOW  7  
 REFUSED  9

### Section EC. Electronic Cigarettes

EC1. Electronic cigarettes include any product that uses batteries or other methods to produce a vapor which contains nicotine. They have various other names such as e-cigarette, vape-pen, e-shisha, e-pipes. Before today, have you ever heard of or seen an electronic cigarette?

- YES  1  
 NO  2 → SKIP TO NEXT SECTION (C)  
 REFUSED  9 → SKIP TO NEXT SECTION (C)

- EC2. Do you currently use electronic cigarettes on a daily basis, less than daily, or not at all?
- DAILY  1 → SKIP TO EC4
- LESS THAN DAILY  2 → SKIP TO EC4
- NOT AT ALL  3
- REFUSED  9

- EC3. Have you ever even once, used an electronic cigarette?

- YES  1
- NO  2
- REFUSED  9

→ SKIP TO NEXT SECTION (C)

- EC4. What is the main reason why you use electronic cigarettes?

- HEALTHIER OPTION THAN TOBACCO PRODUCTS  1
- FOR QUITTING TOBACCO USE  2
- BECAUSE IT CAN BE USED IN PUBLIC PLACES  3
- OTHER  3 → EC4 a. [SPECIFY]: \_\_\_\_\_
- REFUSED  9

## SECTION C. SMOKELESS TOBACCO

- C00. The next questions are about using smokeless tobacco, such as tobacco leaf, betel quid with tobacco, sada/surti, *khaini* or tobacco lime mixture, *gutkha*, *paan masala* with *zarda*, *mawa*, *gul*, *gudaku*, *mishri*. Smokeless tobacco is tobacco that is not smoked, but is sniffed through the nose, held in the mouth, or chewed. Please do not answer about chewing of products without tobacco at this time.

- C01. Do you currently use smokeless tobacco on a daily basis, less than daily, or not at all?

[IF RESPONDENT DOES NOT KNOW WHAT SMOKELESS TOBACCO IS, EITHER PRESENT A SHOWCARD OR READ DEFINITION FROM QXQ SCREEN]

- DAILY  1 → SKIP TO C04
- LESS THAN DAILY  2
- NOT AT ALL  3 → SKIP TO C03
- DON'T KNOW  7 → SKIP TO NEXT SECTION (CC)
- REFUSED  9 → SKIP TO NEXT SECTION (CC)

- C02. Have you used smokeless tobacco daily in the past?

- YES  1 → SKIP TO C08
- NO  2 → SKIP TO C10
- DON'T KNOW  7 → SKIP TO C10
- REFUSED  9 → SKIP TO C10

- C03. In the past, have you used smokeless tobacco on a daily basis, less than daily, or not at all?

[IF RESPONDENT HAS DONE BOTH "DAILY" AND "LESS THAN DAILY" IN THE PAST, CHECK "DAILY" AND FOLLOW DAILY ROUTING]

- DAILY  1 → SKIP TO C11
- LESS THAN DAILY  2 → SKIP TO C13
- NOT AT ALL  3 → SKIP TO NEXT SECTION (CC)
- DON'T KNOW  7 → SKIP TO NEXT SECTION (CC)
- REFUSED  9 → SKIP TO NEXT SECTION (CC)



**[CURRENT DAILY SMOKELESS TOBACCO USERS]**

C04. How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

[IF C04 = 99, ASK C05. OTHERWISE SKIP TO C06.]

C05. How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

--	--

C06. On average, how many times a day do you use the following products? Also, let me know if you use the product, but not every day.

[IF RESPONDENT REPORTS USING THE PRODUCT BUT NOT EVERY DAY, ENTER 888]

a.	Betel quid with tobacco?				PER DAY
a1.	[IF C06a=888] On average, how many times do you use betel quid with tobacco each week?				PER WEEK
b.	<i>Khaini</i> or tobacco lime mixture?				PER DAY
b1.	[IF C06b=888] On average, how many times do you use <i>khaini</i> or tobacco lime mixture each week??				PER WEEK
c.	Gutka, areca nut—tobacco lime mixture, or <i>mawa</i> ?				PER DAY
c1.	[IF C06c=888] On average, how many times do you use gutka, areca nut—tobacco lime mixture, or <i>mawa</i> each week?				PER WEEK
d.	Oral tobacco use (as <i>mishri</i> , <i>qul</i> , <i>gudakhu</i> )?				PER DAY
d1.	[IF C06d=888] On average, how many times do you use oral tobacco use (as <i>mishri</i> , <i>qul</i> , <i>gudakhu</i> ) each week??				PER WEEK
e.	<i>Paan masala</i> together with tobacco?				PER DAY
e1.	[IF C06e=888] On average, how many times do you use <i>Paan masala</i> together with tobacco each week?				PER WEEK
f.	Nasal use of snuff?				PER DAY
f1.	[IF C06f=888] On average, how many times do you use nasal use of snuff each week?				PER WEEK
g.	Any others? (→ g1. Please specify the other type you currently use each day:_____)				PER DAY
g2.	[IF C06g=888] On average, how many times a week do you currently use [FILL PRODUCT]?				PER WEEK

C07. How soon after you wake up do you usually use smokeless tobacco for the first time? Would you say within 5 minutes, 6 to 30 minutes, 31 to 60 minutes, or more than 60 minutes?

- WITHIN 5 MINUTES  1
- 6 TO 30 MINUTES  2
- 31 TO 60 MINUTES  3
- MORE THAN 60 MINUTES  4
- REFUSED  9

[SKIP TO NEXT SECTION (CC)]

**[CURRENT LESS THAN DAILY SMOKELESS TOBACCO USERS]**

C08. How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

[IF C08 = 99, ASK C09. OTHERWISE SKIP TO C10.]

C09. How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

C10. How many times a week do you usually use the following?

[IF RESPONDENT REPORTS DOING THE ACTIVITY WITHIN THE PAST 30 DAYS, BUT LESS THAN ONCE PER WEEK, RECORD 888]

- |  |                      |                      |                      |                |
|--|----------------------|----------------------|----------------------|----------------|
| a. Betel quid with tobacco?  | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| b. <i>Khaini</i> or tobacco lime mixture?                              | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| c. Gutka, areca nut—tobacco lime mixture, or <i>mawa</i> ?             | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| d. Oral tobacco use (as <i>mishri</i> , <i>gul</i> , <i>gudakhu</i> )? | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| e. <i>Paan masala</i> together with tobacco?                           | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| f. Nasal use of snuff?   | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |
| g. Any other form of smokeless tobacco?                                | <input type="text"/> | <input type="text"/> | <input type="text"/> | TIMES PER WEEK |

→ g1. Please specify the other type you currently use during a usual week:

[SKIP TO NEXT SECTION (CC)]

**[FORMER SMOKELESS TOBACCO USERS]**

C11. How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

[IF C11 = 99, ASK C12. OTHERWISE SKIP TO C13a.]

C12. How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

C13a. How long has it been since you stopped using smokeless tobacco?

[ONLY INTERESTED IN WHEN RESPONDENT STOPPED USING SMOKELESS TOBACCO REGULARLY — DO NOT INCLUDE RARE INSTANCES OF USING SMOKELESS TOBACCO ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- YEARS  1
- MONTHS  2
- WEEKS  3
- DAYS  4
- LESS THAN 1 DAY  5 → SKIP TO C14
- DON'T KNOW  7 → SKIP TO NEXT SECTION (CC)
- REFUSED  9 → SKIP TO NEXT SECTION (CC)

C13b. [ENTER NUMBER OF (YEARS/MONTHS/WEEKS/DAYS)]

[IF C13a/b < 1 YEAR (< 12 MONTHS), THEN CONTINUE. OTHERWISE SKIP TO NEXT SECTION (CC).]

IF B14 HAS NOT BEEN ASKED	→ CONTINUE WITH C14
IF B14 = YES	→ SKIP TO C16
IF B14 = NO OR REFUSED	→ SKIP TO C18

C14. Have you visited a doctor or other health care provider in the past 12 months for any reason of personal health?

- YES  1  
 NO  2 → SKIP TO C18  
 REFUSED  9 → SKIP TO C18

C15. How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

- 1 OR 2 TIMES  1  
 3 TO 5 TIMES  2  
 6 OR MORE TIMES  3  
 REFUSED  9

C16. During any visit to a doctor or health care provider in the past 12 months, were you asked if you use smokeless tobacco?

- YES  1  
 NO  2 → SKIP TO C18  
 REFUSED  9 → SKIP TO C18

C17. During any visit to a doctor or health care provider in the past 12 months, were you advised to stop using smokeless tobacco?

- YES  1  
 NO  2  
 REFUSED  9

C18. During the past 12 months, did you use any of the following to try to stop using smokeless tobacco?

- |  | YES                        | NO                         | REFUSED                    |
|--|----------------------------|----------------------------|----------------------------|
|  | ▼                          | ▼                          | ▼                          |
| a. Counseling, including at a cessation clinic?                      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| b. Nicotine replacement therapy, such as the patch or gum?           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| c. Other prescription medications?                                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d. Traditional medicines, for example Ayurvedic, Homeopathic, Unani? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d1. m-Cessation?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| h. Try to quit without assistance?                                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| g. Anything else?  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |

→ g1. Please specify what you used to try to stop using smokeless tobacco:

## SECTION CC. USE OF OTHER PRODUCTS

CCINTRO. The next questions ask about your use of some other products that do not contain tobacco.

CC1. Do you consume *Paan masala* without tobacco?

- YES  1  
 NO  2 **SKIP TO CC3**  
 REFUSED  9
- CC2. How frequently do you consume *Paan masala* without tobacco, would you say daily, not daily but at least once in a week, or only occasionally?  
 DAILY  1  
 NOT DAILY, BUT WEEKLY  2  
 OCCASIONALLY  3  
 REFUSED  9
- CC3. Do you consume betel quid without tobacco?  
 YES  1  
 NO  2 **SKIP TO CC5**  
 REFUSED  9
- CC4. How frequently do you consume betel quid without tobacco, would you say daily, not daily but at least once in a week, or only occasionally?  
 DAILY  1  
 NOT DAILY, BUT WEEKLY  2  
 OCCASIONALLY  3  
 REFUSED  9
- CC5. Do you consume areca nut of any type, plain, powdered or flavored?  
 YES  1  
 NO  2 **SKIP TO NEXT SECTION (D1)**  
 REFUSED  9
- CC6. How frequently do you consume areca nut, would you say daily, not daily but at least once in a week, or only occasionally?  
 DAILY  1  
 NOT DAILY, BUT WEEKLY  2  
 OCCASIONALLY  3  
 REFUSED  9

## SECTION D1. CESSATION – TOBACCO SMOKING

IF B01 = 1 OR 2 (RESPONDENT CURRENTLY SMOKES TOBACCO), CONTINUE WITH THIS SECTION.

IF B01 = 3, 7, OR 9 (RESPONDENT DOES NOT CURRENTLY SMOKE TOBACCO), SKIP TO NEXT SECTION (D2).

- D01. The next questions ask about any attempts to stop smoking that you might have made during the past 12 months. Please think about tobacco smoking.  
 During the past 12 months, have you tried to stop smoking?  
 YES  1  
 NO  2 **→ SKIP TO INSTRUCTION BEFORE D04**  
 REFUSED  9 **→ SKIP TO INSTRUCTION BEFORE D04**
- D02a. Thinking about the last time you tried to quit, how long did you stop smoking?  
 [ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]  
 MONTHS  1  
 WEEKS  2  
 DAYS  3

- LESS THAN 1 DAY (24 HOURS)       4 → SKIP TO D03  
 DON'T KNOW                               7 → SKIP TO D03  
 REFUSED                                       9 → SKIP TO D03

D02b. [ENTER NUMBER OF (MONTHS/WEEKS/DAYS)]

--	--	--

D03. During the past 12 months, did you use any of the following to try to stop smoking tobacco?

- |  | YES<br>▼                   | NO<br>▼                    | REFUSED<br>▼               |
|--|----------------------------|----------------------------|----------------------------|
| a. Counseling, including at a smoking cessation clinic?              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| b. Nicotine replacement therapy, such as the patch or gum?           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| c. Other prescription medications?                                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d. Traditional medicines, for example Ayurvedic, Homeopathic, Unani? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d1. m-Cessation?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| e. A quit line or a smoking telephone support line?                  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| f. Switching to smokeless tobacco?                                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| h. Try to quit without assistance?                                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| g. Anything else?  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
- g1. Please specify what you used to try to stop smoking:

IF C14 HAS NOT BEEN ASKED      → CONTINUE WITH D04  
 IF C14 = YES                              → SKIP TO D06  
 IF C14 = NO OR REFUSED              → SKIP TO D08

D04. Have you visited a doctor or other health care provider in the past 12 months for any reason of personal health?

- YES     1  
 NO     2 → SKIP TO D08  
 REFUSED                                         9 → SKIP TO D08

D05. How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

- 1 OR 2     1  
 3 TO 5     2  
 6 OR MORE                                         3  
 REFUSED     9

D06. During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke tobacco?

- YES     1  
 NO      2 → SKIP TO D08  
 REFUSED                                          9 → SKIP TO D08

D07. During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?

- YES     1  
 NO      2  
 REFUSED                                          9

- D08. Which of the following best describes your thinking about quitting smoking? I am planning to quit within the next month, I am thinking about quitting within the next 12 months, I will quit someday but not within the next 12 months, or I am not interested in quitting?
- QUIT WITHIN THE NEXT MONTH  1
- THINKING WITHIN THE NEXT 12 MONTHS  2
- QUIT SOMEDAY, BUT NOT NEXT 12 MONTHS.  3
- NOT INTERESTED IN QUITTING  4
- DON'T KNOW  7
- REFUSED  9

## SECTION D2. CESSATION – SMOKELESS TOBACCO

IF C01 = 1 OR 2 (RESPONDENT CURRENTLY USES SMOKELESS TOBACCO), CONTINUE WITH THIS SECTION.  
 IF C01 = 3, 7, OR 9 (RESPONDENT DOES NOT CURRENTLY USE SMOKELESS TOBACCO), SKIP TO NEXT SECTION (E).

- D09. The next questions ask about any attempts to stop using smokeless tobacco that you might have made during the past 12 months. Please think about your use of smokeless tobacco.
- During the past 12 months, have you tried to stop using smokeless tobacco?
- YES  1
- NO  2 → SKIP TO INT INSTRUCTION BEFORE D12
- REFUSED  9 → SKIP TO INT INSTRUCTION BEFORE D12
- D10a. Thinking about the last time you tried to quit, how long did you stop using smokeless tobacco?  
 [ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]
- MONTHS  1
- WEEKS  2
- DAYS  3
- LESS THAN 1 DAY (24 HOURS)  4 → SKIP TO D11
- DON'T KNOW  7 → SKIP TO D11
- REFUSED  9 → SKIP TO D11
- D10b. [ENTER NUMBER OF (MONTHS/WEEKS/DAYS)]
- |  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|
- D11. During the past 12 months, did you use any of the following to try and stop using smokeless tobacco?
- |  | YES                        | NO                         | REFUSED                    |
|--|----------------------------|----------------------------|----------------------------|
|  | ▼                          | ▼                          | ▼                          |
| a. Counseling, including at a cessation clinic?                            | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| b. Nicotine replacement therapy, such as the patch or gum?                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| c. Other prescription medications?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d. Traditional medicines, for example Ayurvedic, Homeopathic, Unani?       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d1. m-Cessation?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| h. Try to quit without assistance?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| g. Anything else? Specify: _____   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| → g1. Please specify what you used to try to stop using smokeless tobacco: |                            |                            |                            |

IF BOTH B14 AND D04 HAVE NOT BEEN ASKED → CONTINUE WITH D12

IF B14 OR D04 = YES → SKIP TO D14

IF B14 OR D04 = NO OR REFUSED → SKIP TO D16

- D12. Have you visited a doctor or other health care provider in the past 12 months for any reason of personal health?
- YES  1
- NO  2 → SKIP TO D16
- REFUSED  9 → SKIP TO D16
- D13. How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?
- 1 OR 2  1
- 3 TO 5  2
- 6 OR MORE  3
- REFUSED  9
- D14. During any visit to a doctor or health care provider in the past 12 months, were you asked if you use smokeless tobacco?
- YES  1
- NO  2 → SKIP TO D16
- REFUSED  9 → SKIP TO D16
- D15. During any visit to a doctor or health care provider in the past 12 months, were you advised to stop using smokeless tobacco?
- YES  1
- NO  2
- REFUSED  9
- D16. Which of the following best describes your thinking about quitting smokeless tobacco? I am planning to quit within the next month, I am thinking about quitting within the next 12 months, I will quit someday but not within the next 12 months, or I am not interested in quitting?
- QUIT WITHIN THE NEXT MONTH  1
- THINKING WITHIN THE NEXT 12 MONTHS  2
- QUIT SOMEDAY, BUT NOT NEXT 12 MONTHS  3
- NOT INTERESTED IN QUITTING  4
- DON'T KNOW  7
- REFUSED  9

## SECTION E. Second Hand Smoke

- E01. I would now like to ask you a few questions about smoking in various places.
- Which of the following best describes the practices about smoking inside of your home: Smoking is allowed inside of your home, smoking is generally not allowed inside of your home but there are exceptions, smoking is never allowed inside of your home, or there are no rules about smoking in your home?
- ALLOWED  1
- NOT ALLOWED, BUT EXCEPTIONS  2
- NEVER ALLOWED  3 → SKIP TO E04
- NO RULES  4 → SKIP TO E03

- DON'T KNOW  7 → SKIP TO E03
- REFUSED  9 → SKIP TO E03
- E02. Inside your home, is smoking allowed in every room?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- E03. How often does anyone smoke inside your home? Would you say daily, weekly, monthly, less than monthly, or never?
- DAILY  1
- WEEKLY  2
- MONTHLY  3
- LESS THAN MONTHLY  4
- NEVER  5
- DON'T KNOW  7
- REFUSED  9
- E04. Do you currently work outside of your home?
- YES  1
- NO/DON'T WORK  2 → SKIP TO E09
- REFUSED  9 → SKIP TO E09
- E05. Do you usually work indoors or outdoors?
- INDOORS  1 → SKIP TO E07
- OUTDOORS  2
- BOTH  3 → SKIP TO E07
- REFUSED  9
- E06. Are there any indoor areas at your work place?
- YES  1
- NO  2 → SKIP TO E09
- DON'T KNOW  7 → SKIP TO E09
- REFUSED  9 → SKIP TO E09
- E07. Which of the following best describes the indoor smoking policy where you work: Smoking is allowed anywhere, smoking is allowed only in some indoor areas, smoking is not allowed in any indoor areas, or there is no policy?
- ALLOWED ANYWHERE  1
- ALLOWED ONLY IN SOME INDOOR AREAS  2
- NOT ALLOWED IN ANY INDOOR AREAS  3
- THERE IS NO POLICY  4
- DON'T KNOW  7
- REFUSED  9
- E08. During the past 30 days, did you notice anyone smoking in indoor areas where you work?
- YES  1
- NO  2



- DON'T KNOW  7
- REFUSED  9
- E09. During the past 30 days, did you visit any government buildings or government offices?
- YES  1
- NO  2 → SKIP TO E23
- DON'T KNOW  7 → SKIP TO E23
- REFUSED  9 → SKIP TO E23
- E10. Did you notice anyone smoking inside of any government buildings or government offices that you visited in the past 30 days?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- E23. During the past 30 days, did you visit any private offices/workplaces other than your own?
- YES  1
- NO  2 → SKIP TO E11
- DON'T KNOW  7 → SKIP TO E11
- REFUSED  9 → SKIP TO E11
- E24. Did you notice anyone smoking inside of any of these private offices/workplaces you visited in the past 30 days?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- E11. During the past 30 days, did you visit any health care facilities?
- YES  1
- NO  2 → SKIP TO E13
- DON'T KNOW  7 → SKIP TO E13
- REFUSED  9 → SKIP TO E13
- E12. Did you notice anyone smoking inside of any health care facilities that you visited in the past 30 days?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- E13. During the past 30 days, did you visit any enclosed restaurants or public eating place?
- YES  1
- NO  2 → SKIP TO E15
- DON'T KNOW  7 → SKIP TO E15
- REFUSED  9 → SKIP TO E15
- E14. Did you notice anyone smoking inside of any enclosed restaurants or public eating place that you visited in the past 30 days?

- YES  1  
 NO  2  
 DON'T KNOW  7  
 REFUSED  9
- EE14. In any restaurant that you visited in the past 30 days, did you see any no-smoking boards/signs?  
 YES  1  
 NO  2  
 DON'T KNOW  7  
 REFUSED  9
- E15. During the past 30 days, did you use any public transportation?  
 YES  1  
 NO  2 → SKIP TO E25  
 DON'T KNOW  7 → SKIP TO E25  
 REFUSED  9 → SKIP TO E25
- E16. Did you notice anyone smoking inside of any public transportation that you used in the past 30 days?  
 YES  1  
 NO  2  
 DON'T KNOW  7  
 REFUSED  9
- E25. During the past 30 days, did you visit any bars or night clubs?  
 YES  1  
 NO  2 → SKIP TO EE25  
 DON'T KNOW  7 → SKIP TO EE25  
 REFUSED  9 → SKIP TO EE25
- E26. Did you notice anyone smoking inside of any bars or night clubs that you visited in the past 30 days?  
 YES  1  
 NO  2  
 DON'T KNOW  7  
 REFUSED  9
- EE25. During the past 30 days, did you visit any cinema hall or theatre?  
 YES  1  
 NO  2 → SKIP TO E17  
 DON'T KNOW  7 → SKIP TO E17  
 REFUSED  9 → SKIP TO E17
- EE26. Did you notice anyone smoking inside of cinema hall or theatre that you visited in the past 30 days?  
 YES  1  
 NO  2  
 DON'T KNOW  7  
 REFUSED  9

- E17. Based on what you know or believe, does breathing other people's smoke cause serious illness in non-smokers?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- EE17. Based on what you know or believe, does breathing other people's smoke cause serious illness in children?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9

## SECTION F. ECONOMICS – MANUFACTURED CIGARETTES

IF [B01 = 1 OR 2 (RESPONDENT CURRENTLY SMOKES DAILY OR LESS THAN DAILY)]  
AND  
[(B06a OR B10a) > 0 AND <= 888 (RESPONDENT SMOKES MANUFACTURED CIGARETTES)],  
THEN CONTINUE WITH THIS SECTION.  
OTHERWISE, SKIP TO NEXT SECTION (FA).

- F01a. The next few questions are about the last time you purchased cigarettes for yourself to smoke. The last time you bought cigarettes for yourself, did you buy loose cigarettes, packets, or something else?
- LOOSE CIGARETTES  1
- PACKETS  2
- OTHER (SPECIFY)  4 → F01c. [SPECIFY THE UNIT] : \_\_\_\_\_
- NEVER BOUGHT CIGARETTES  5 → SKIP TO NEXT SECTION (FA)
- REFUSED  9 → SKIP TO F04

- F01b. How many (loose cigarettes/cigarette packets/{F01c}) did you buy?

--	--	--

[IF F01a=CIGARETTES, GO TO F02]

[IF F01a=PACKS, GO TO F01dPack]

[IF F01a=OTHER, GO TO F01dOther]

- F01dPack. Did each pack contain 10 cigarettes, 20 cigarettes, or another amount?

- 10  1
- 20  2
- OTHER AMOUNT  7 → F01dPackA. How many cigarettes were in each pack?
- REFUSED  9

[GO TO F02]

- F01dOther. How many cigarettes were in each {F01c}?

[IF REFUSED, ENTER 999]

--	--	--

F02. In total, how much money did you pay for this purchase?

[IF DON'T KNOW OR REFUSED, ENTER 9999]

RANGE: 1 – 9998, 9999

F04. The last time you purchased cigarettes for yourself, where did you buy them?

- STORE  2
- STREET VENDOR  3
- MILITARY STORE  4
- DUTY-FREE SHOP  5
- OUTSIDE THE COUNTRY  6
- KIOSKS/PAN SHOP  7
- INTERNET  8
- FROM ANOTHER PERSON  9
- OTHER  10 → F04a. [SPECIFY LOCATION]: \_\_\_\_\_
- DON'T REMEMBER  77
- REFUSED  99

### SECTION FA. ECONOMICS – Bidis

IF [B01 = 1 OR 2 (RESPONDENT CURRENTLY SMOKES DAILY OR LESS THAN DAILY)]  
AND  
[(B06c OR B10c) > 0 AND <= 888 (RESPONDENT SMOKES *Bidis*)],  
THEN CONTINUE WITH THIS SECTION.  
OTHERWISE, SKIP TO NEXT SECTION (FB).

FA01a. The next few questions are about the last time you purchased *Bidis* for yourself to smoke.

The last time you bought *Bidis* for yourself, did you buy loose *Bidis*, packets, or something else?

- LOOSE *Bidis*  1
- PACKETS  2
- OTHER (SPECIFY)  4 → FA01c. [SPECIFY THE UNIT]: \_\_\_\_\_
- NEVER BOUGHT *Bidis*  5 → SKIP TO NEXT SECTION (FB)
- REFUSED  9 → SKIP TO FA04

FA01b. How many (loose *Bidis*/*Bidi* packets/{FA01c}) did you buy?

[IF FA01a=*Bidis*, GO TO FA02]

[IF FA01a=PACKS, GO TO FA01dPack]

[IF FA01a=OTHER, GO TO FA01dOther]

FA01dPack. Did each pack contain 10 *Bidis*, 20 *Bidis*, or another amount?

- 10  1
- 20  2
- OTHER AMOUNT  7 → FA01dPackA. How many *Bidis* were in each pack?
- REFUSED  9

[GO TO FA02]

FA01dOther. How many *Bidis* were in each {FA01c}?

[IF REFUSED, ENTER 999]

--	--	--

FA02. In total, how much money did you pay for this purchase?

[IF DON'T KNOW OR REFUSED, ENTER 999]

--

RANGE: 1 – 500, 999

FA04. The last time you purchased *Bidis* for yourself, where did you buy them?

- |                     |                          |                                       |
|---------------------|--------------------------|---------------------------------------|
| STORE               | <input type="checkbox"/> | 2                                     |
| STREET VENDOR       | <input type="checkbox"/> | 3                                     |
| MILITARY STORE      | <input type="checkbox"/> | 4                                     |
| OUTSIDE THE COUNTRY | <input type="checkbox"/> | 6                                     |
| KIOSKS/PAN SHOP     | <input type="checkbox"/> | 7                                     |
| INTERNET            | <input type="checkbox"/> | 8                                     |
| FROM ANOTHER PERSON | <input type="checkbox"/> | 9                                     |
| OTHER               | <input type="checkbox"/> | 10 → FA04a. [SPECIFY LOCATION]: _____ |
| DON'T REMEMBER      | <input type="checkbox"/> | 77                                    |
| REFUSED             | <input type="checkbox"/> | 99                                    |

## SECTION FB. ECONOMICS – SMOKELESS TOBACCO

IF C01 = 1 OR 2 (RESPONDENT CURRENTLY USES SMOKELESS TOBACCO DAILY OR LESS THAN DAILY), THEN CONTINUE WITH THIS SECTION.

OTHERWISE, SKIP TO NEXT SECTION (G).

FB01a. The next few questions are about the last time you purchased smokeless tobacco products for yourself to use.

The last time when you bought smokeless tobacco for yourself, did you buy it in a single use pouch, in a large pouch or can, or as a loose product?

- |                                |                          |                              |
|--------------------------------|--------------------------|------------------------------|
| SINGLE USE POUCH               | <input type="checkbox"/> | 1                            |
| LARGE POUCH OR CAN             | <input type="checkbox"/> | 2                            |
| LOOSE PRODUCT                  | <input type="checkbox"/> | 3 → SKIP TO FB02             |
| NEVER BOUGHT SMOKELESS TOBACCO | <input type="checkbox"/> | 4 → SKIP TO NEXT SECTION (G) |
| REFUSED                        | <input type="checkbox"/> | 9 → SKIP TO FB04             |

FB01b. How many {single use pouches/large pouches or cans} did you buy?

--	--	--

FB01c. How much money did you pay for each {single use pouch/large pouch or can}?

[IF DON'T KNOW OR REFUSED, ENTER 999]

--

RUPEES

→ SKIP TO FB04

FB02. In total, how much money did you pay for this purchase?

[IF DON'T KNOW OR REFUSED, ENTER 999]

RANGE: 1 – 500, 999

FB04. The last time you purchased smokeless tobacco products for yourself, where did you buy them?

- STORE  2
- STREET VENDOR  3
- MILITARY STORE  4
- OUTSIDE THE COUNTRY  6
- KIOSKS/PAN SHOP  7
- INTERNET  8
- FROM ANOTHER PERSON  9
- OTHER  10 → FB04a. [SPECIFY LOCATION]: \_\_\_\_\_
- DON'T REMEMBER  77
- REFUSED  99

### SECTION G. MEDIA – STRUCTURE #1

G01intro. The next questions ask about your exposure to the media and advertisements in the last 30 days. First, I am going to ask you about noticing information about the dangers of smoking tobacco.

G01. In the last 30 days, have you noticed information about the dangers of smoking tobacco or that encourages quitting in any of the following places?

	YES	NO	NOT APPLICABLE	REFUSED
	▼	▼	▼	▼
a. In newspapers or in magazines?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. On television?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. On the radio?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. On billboards/hoardings?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. In cinemas?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. On the internet?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
h. On public transportation vehicles or stations?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
i. On public walls?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Somewhere else?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

[DO NOT INCLUDE HEALTH WARNINGS ON CIGARETTE PACKAGES]

→ e1. Please specify where: \_\_\_\_\_

GG1. [ADMINISTER IF B01=1 OR 2 AND AT LEAST 1 FOR ANY BETWEEN G01a TO G01e]

Did any of the information you just reported noticing about the dangers of smoking tobacco in the last 30 days lead you to think about quitting smoking?

- YES  1
- NO  2

DON'T KNOW  7

REFUSED  9

G201intro. Now I am going to ask you about noticing information about the dangers of using smokeless tobacco.

G201. In the last 30 days, have you noticed information about the dangers of using smokeless tobacco or that encourages quitting in any of the following places?

	YES	NO	NOT APPLICABLE	REFUSED
	▼	▼	▼	▼
a. In newspapers or in magazines?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. On television?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. On the radio?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. On billboards/hoardings?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. In cinemas?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. On the internet?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
h. On public transportation vehicles or stations?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
i. On public walls?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Somewhere else?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

[DO NOT INCLUDE HEALTH WARNINGS ON SMOKELESS TOBACCO PACKAGES]

→ e1. Please specify where: \_\_\_\_\_

GG2. [ADMINISTER IF C01=1 OR 2 AND AT LEAST 1 FOR ANY BETWEEN G201a TO G201e]

Did any of the information you just reported noticing about the dangers of using smokeless tobacco in the last 30 days lead you to think about quitting the use of smokeless tobacco?

YES  1

NO  2

DON'T KNOW  7

REFUSED  9

G02intro. The next questions ask about noticing health warnings on tobacco products.

G02. In the last 30 days, did you notice any health warnings on cigarette packages?

YES  1

NO  2 → SKIP TO G02b

DID NOT SEE ANY CIGARETTE PACKAGES  3 → SKIP TO G02b

REFUSED  9 → SKIP TO G02b

G03. [ADMINISTER IF B01 = 1 OR 2. ELSE GO TO G02b]

In the last 30 days, have warning labels on cigarette packages led you to think about quitting?

YES  1

NO  2

DON'T KNOW  7

REFUSED  9

G02b. In the last 30 days, did you notice any health warnings on *Bidi* packages?

YES  1

NO  2 → SKIP TO G02a

- DID NOT SEE ANY *Bidi* PACKAGES  3 → SKIP TO G02a
- REFUSED  9 → SKIP TO G02a
- G03b. [ADMINISTER IF (B01 = 1 OR 2) AND [(B06c OR B10c) > 0 AND <= 888]. ELSE GO TO G02a]
- In the last 30 days, have warning labels on *Bidi* packages led you to think about quitting smoking *Bidis*?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- G02a. In the last 30 days, did you notice any health warnings on smokeless tobacco products?
- YES  1
- NO  2 → SKIP TO GG3
- DID NOT SEE ANY SMOKELESS PRODUCTS  3 → SKIP TO GG3
- REFUSED  9 → SKIP TO GG3
- G03a. [ADMINISTER IF C01 = 1 OR 2. ELSE GO TO GG3]
- In the last 30 days, have warning labels on smokeless tobacco products led you to think about quitting?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- GG3. In the last 30 days, have you noticed any information in the media about the dangers of second hand tobacco smoke?
- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9
- GG4. In the last 30 days, have you seen a notice of no sale to minors in stores where any tobacco products are sold?
- YES  1
- NO  2
- NOT APPLICABLE  7
- REFUSED  9
- G04intro. The next questions ask about your exposure to advertising that is designed to promote the use of tobacco products. First, I will ask about noticing advertisements of smoking tobacco products.
- G04. In the last 30 days, have you noticed any advertisements or signs promoting smoking tobacco products in the following places?
- |   | YES                        | NO                         | NOT APPLICABLE             | REFUSED                    |
|---|----------------------------|----------------------------|----------------------------|----------------------------|
|   | ▼                          | ▼                          | ▼                          | ▼                          |
| a. In stores where cigarettes are sold? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| b. On television?                       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| c. On the radio?                        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| d. On billboards/hoardings?             | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |



- |   |                            |                            |                            |                            |
|---|----------------------------|----------------------------|----------------------------|----------------------------|
| e. On posters?                                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| f. In newspapers or magazines?                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| g. In cinemas?                                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| h. On the internet?                               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| i. On public transportation vehicles or stations? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| j. On public walls?                               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| k. Anywhere else?                                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |

→ k1. Please specify where: \_\_\_\_\_

G204intro. Now I will ask about noticing advertisements of smokeless tobacco products.

G204. In the last 30 days, have you noticed any advertisements or signs promoting smokeless tobacco products in the following places?

- |   | YES                        | NO                         | NOT APPLICABLE             | REFUSED                    |
|---|----------------------------|----------------------------|----------------------------|----------------------------|
|   | ▼                          | ▼                          | ▼                          | ▼                          |
| a. In stores where smokeless tobacco is sold?     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| b. On television?                                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| c. On the radio?                                  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| d. On billboards/hoardings?                       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| e. On posters?                                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| f. In newspapers or magazines?                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| g. In cinemas?                                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| h. On the internet?                               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| i. On public transportation vehicles or stations? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| j. On public walls?                               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| k. Anywhere else?                                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |

→ k1. Please specify where: \_\_\_\_\_

G06intro. The next questions ask about your exposure to various promotions of cigarettes, *Bidis*, and smokeless tobacco. First I will ask about cigarettes.

G06. In the last 30 days, have you noticed any of the following types of cigarette promotions?

- |  | YES                        | NO                         | NOT APPLICABLE             | REFUSED                    |
|--|----------------------------|----------------------------|----------------------------|----------------------------|
|  | ▼                          | ▼                          | ▼                          | ▼                          |
| a. Free samples of cigarettes?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| b. Cigarettes sold at sale prices?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| c. Coupons for cigarettes?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| d. Free gifts or special discount offers on other products when buying cigarettes?           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| e. Clothing or other items with a cigarette brand name or logo?                              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| f. Cigarette promotions in the mail?   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| g. Surrogate advertisements promoting other products with the same brand name as cigarettes? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |

G206intro. Now I will ask about promotions of *Bidis*.

G206. In the last 30 days, have you noticed any of the following types of *Bidi* promotions?

	YES	NO	DON'T KNOW	REFUSED
	▼	▼	▼	▼
a. Free samples of <i>Bidis</i> ?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. <i>Bidis</i> sold at sale prices?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. Coupons for <i>Bidis</i> ?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. Free gifts or special discount offers on other products when buying <i>Bidis</i> ?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Clothing or other items with a <i>Bidi</i> brand name or logo?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. <i>Bidi</i> promotions in the mail?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. Surrogate advertisements promoting other products with the same brand name as <i>Bidis</i> ?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

G306intro. Now I will ask about promotions of smokeless tobacco.

G306. In the last 30 days, have you noticed any of the following types of smokeless tobacco promotions?

	YES	NO	DON'T KNOW	REFUSED
	▼	▼	▼	▼
a. Free samples of smokeless tobacco?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. Smokeless tobacco sold at sale prices?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. Coupons for smokeless tobacco?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. Free gifts or special discount offers on other products when buying smokeless tobacco?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Clothing or other items with a smokeless tobacco brand name or logo?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. Smokeless tobacco promotions in the mail?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. Surrogate advertisements promoting other products with the same brand name as smokeless tobacco?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

## SECTION H. KNOWLEDGE, ATTITUDES & PERCEPTIONS

H01. The next question is asking about smoking tobacco.

Based on what you know or believe, does smoking tobacco cause serious illness?

- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9

H02. Based on what you know or believe, does smoking tobacco cause the following...

	YES	NO	DON'T KNOW	REFUSED
	▼	▼	▼	▼
a. Stroke (blood clots in the brain that may cause paralysis)?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

- b. Heart attack?  1  2  7  9
- c. Lung cancer?  1  2  7  9
- d. Chronic cough/Tuberculosis (TB)?  1  2  7  9

H03. Based on what you know or believe, does using smokeless tobacco cause serious illness?

- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9

HH01. Based on what you know or believe, does use of smokeless tobacco cause the following...

- |                     | YES                        | NO                         | DON'T KNOW                 | REFUSED                    |
|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|                     | ▼                          | ▼                          | ▼                          | ▼                          |
| a. Oral cancer?     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |
| b. Dental diseases? | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 |

HH02. Based on what you know or believe, does using smokeless tobacco during pregnancy cause harm to a fetus?

- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9

HH03. Do you think the use of tobacco in any form leads to addiction?

- YES  1
- NO  2
- DON'T KNOW  7
- REFUSED  9

HH07. **[IF B01 = 1 OR 2 (CURRENTLY SMOKES DAILY OR LESS THAN DAILY)]**

Based on what you know or believe, has smoking already done any harm to your body? Would you say definitely no, probably no, probably yes, or definitely yes?

- DEFINITELY NO  1
- PROBABLY NO  2
- PROBABLY YES  3
- DEFINITELY YES  4
- DON'T KNOW  7
- REFUSED  9

HH08. **[IF C01 = 1 OR 2 (CURRENTLY USES SMOKELESS TOBACCO DAILY OR LESS THAN DAILY)]**

Based on what you know or believe, has using smokeless tobacco already done any harm to your body? Would you say definitely no, probably no, probably yes, or definitely yes?

- DEFINITELY NO  1
- PROBABLY NO  2
- PROBABLY YES  3
- DEFINITELY YES  4
- DON'T KNOW  7

REFUSED  9

AA12. [ONLY FOR WOMEN AGED LESS THAN 50]

Are you currently pregnant?

YES  1

NO  2

DON'T KNOW  7

REFUSED  9

### END INDIVIDUAL QUESTIONNAIRE

I00. Those are all of the questions I have. Thank you very much for participating in this important survey.

I02. [RECORD ANY NOTES ABOUT INTERVIEW:]

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## APPENDIX F

# MPOWER SUMMARY INDICATORS



**Appendix Table F-1:** MPOWER Summary indicators, GATS 2 India 2016-17

Indicator	Overall	Gender		Residence	
		Male	Female	Urban	Rural
<b>M: Monitor tobacco use and prevention policies</b>					
Current tobacco users <sup>1</sup>	28.6	42.4	14.2	21.2	32.5
Current tobacco smokers <sup>1</sup>	10.7	19.0	2.0	8.3	11.9
Current cigarette smokers <sup>1,2</sup>	4.0	7.3	0.6	4.4	3.8
Current <i>bidi</i> smokers <sup>1</sup>	7.7	14.0	1.2	4.7	9.3
Current smokeless tobacco users <sup>1</sup>	21.4	29.6	12.8	15.2	24.6
Current 'betel quid with tobacco' users	5.8	7.1	4.5	4.3	6.6
Current <i>khaini</i> users	11.2	17.9	4.2	6.8	13.5
Current <i>gutka</i> users	6.8	10.8	2.7	6.3	7.1
Current ' <i>paan masala</i> with tobacco' users	2.8	4.5	1.1	2.3	3.1
Current 'oral tobacco application' users	3.8	3.3	4.3	2.8	4.4
Average number of cigarettes smoked per day	6.8	7.0	5.2	6.3	7.2
Average number of <i>bidis</i> smoked per day	15.1	15.6	7.8	14.3	15.3
Average age at initiation of daily smoking (among daily smokers aged 20-34)	18.9	18.8	21.2	19.0	18.8
Average age at initiation of daily smokeless tobacco use (among daily smokeless tobacco users aged 20-34)	18.8	18.7	19.2	18.9	18.8
Former tobacco smokers among ever daily smokers (quit ratio)	16.8	16.8	17.6	18.2	16.3
Former smokeless tobacco users among ever daily smokeless tobacco users (quit ratio)	5.8	5.2	7.0	7.1	5.3
<b>P: Protect people from tobacco smoke</b>					
Percentage of adults exposed to second hand smoke at work	30.2	32.7	17.9	25.3	34.3
<b>Percentage of adults exposed to second hand smoke in public places:</b>					
Government buildings	5.3	8.1	2.4	5.9	5.0
Health-care facilities	5.6	6.8	4.4	5.7	5.5
Restaurants/Public eating places	7.4	13.0	1.6	8.4	7.0
Public transportation	13.3	16.6	9.9	13.0	13.5
Private offices	3.6	5.8	1.4	5.0	2.9
Bar/Night Club	2.1	4.1	0.1	2.5	2.0
Cinema Hall/theatre	2.2	3.9	0.4	3.5	1.6
Any of these seven public places	25.7	35.7	15.2	27.4	24.8
<b>O: Offer help to quit tobacco use</b>					
Percentage of smokers <sup>3</sup> who made quit attempt in the past 12 months	38.5	38.8	35.5	41.5	37.4
Percentage of smokers <sup>3</sup> advised to quit smoking by a health care provider	48.8	50.3	36.6	53.1	47.4
<b>Percentage of smokers<sup>3</sup> who attempted to quit smoking using a specific cessation method</b>					
Pharmacotherapy	4.1	4.2	3.0	6.6	3.0
Counseling/Advice or Quit Lines	8.6	8.6	8.7	8.2	8.8
Switching to smokeless tobacco	4.1	4.0	5.1	2.7	4.7
Other methods for smoking cessation <sup>4</sup>	4.8	4.6	6.7	5.6	4.4

Indicator	Overall	Gender		Residence	
		Male	Female	Urban	Rural
Percentage of smokeless tobacco users <sup>3</sup> who made a quit attempt in the past 12 months	33.2	35.2	28.4	36.7	32.1
Percentage of smokeless tobacco users <sup>3</sup> who were advised to quit smokeless tobacco use by a health care provider	31.7	33.3	28.6	35.2	30.6
<b>Percentage of smokeless tobacco users<sup>3</sup> who attempted to quit smokeless tobacco use using a specific cessation method</b>					
Pharmacotherapy	3.2	3.4	2.7	3.6	3.1
Counseling/advice	7.3	7.0	8.4	8.7	6.8
Other methods <sup>4</sup>	5.2	5.5	4.3	6.1	4.9
Percentage of current smokers interested in quitting smoking <sup>5</sup> :	55.4	56.3	46.5	61.2	53.2
Percentage of current smokeless tobacco users interested in quitting smokeless tobacco use:	49.6	52.7	42.2	54.7	48.0
<b>W: Warn about the dangers of tobacco</b>					
Percentage adults who believe tobacco smoking causes serious illness	92.4	92.8	92.0	93.1	92.1
<b>Percentage adults who believe tobacco smoking causes specific disease:</b>					
Stroke	65.8	69.5	61.9	68.8	64.2
Heart attack	76.7	79.4	73.8	81.8	74.0
Lung cancer	93.5	95.3	91.6	95.7	92.4
Tuberculosis	92.3	94.3	90.3	93.6	91.6
Percentage adults who believe smokeless tobacco smoking causes serious illness	95.6	96.4	94.8	96.8	95.0
<b>Percentage adults who believe use of smokeless tobacco causes specific disease</b>					
Oral cancer	94.4	96.1	92.7	96.4	93.4
Dental diseases	90.7	93.1	88.2	92.1	90.0
Percentage adults who believe use of smokeless tobacco during pregnancy harms foetus	87.9	86.4	89.5	89.7	86.9
Percentage of adults who believe breathing other people's smoke causes serious illness in non-smokers	92.4	94.0	90.8	94.5	91.3
Percentage of adults who believe breathing other people's smoke causes serious illness in children	93.3	94.8	91.8	95.2	92.3
<b>E: Enforce bans on tobacco advertising or promotion</b>					
Percentage of adults who noticed any advertisement for smoking tobacco	19.2	23.0	15.2	22.1	17.7
Percentage of adults who noticed any advertisement for smoking tobacco or promotion of cigarette or <i>bidi</i>	22.3	26.6	17.7	25.0	20.9
Percentage of adults who noticed any advertisement for smokeless tobacco	18.3	22.4	14.1	21.4	16.7
Percentage of adults who noticed any smokeless tobacco advertisement or promotion <sup>6</sup>	20.5	25.2	15.6	23.7	18.9
Percentage of adults who noticed anti-smoking information at any location <sup>6</sup>	76.0	84.3	67.3	88.5	69.4
Percentage of adults who noticed anti-smokeless tobacco information at any location <sup>6</sup>	67.3	75.5	58.6	78.4	61.4
<b>R: Raise taxes on tobacco</b>					
Average cigarette expenditure per month among current manufactured cigarette smokers (In Rs)	1192.5	1195.5	731.7	1329.3	1039.6
Average <i>bidi</i> expenditure per month among current <i>bidi</i> smokers (In Rs)	284.1	294.7	138.3	275.6	286.4
Last cigarette purchase was from store	50.8	50.9	39.2	49.5	51.9
Last cigarette purchase was from a street vendor	9.2	9.2	9.3	8.6	9.7
Last <i>bidi</i> purchase was from store	60.4	59.6	71.4	53.6	62.3
Last <i>bidi</i> purchase was from a street vendor	7.0	7.3	3.2	7.9	6.8
Last smokeless tobacco purchase was from store	55.6	53.5	60.8	49.9	57.5
Last smokeless tobacco purchase was from a street vendor	6.8	5.7	9.6	7.1	6.8

Note : 1 Includes both daily and occasional (less than daily) use.

2 Includes manufactured and hand rolled cigarettes.

3 Current smokers/smokeless tobacco users and former smokers/smokeless tobacco users who have been abstinent for less than 12 months.

4 Includes traditional medicines and other products.

5 Current smokers/smokeless tobacco users who are planning or thinking about quitting within next month, 12 months or some day

6 In the last 30 days.

**Appendix Table F-2: MPOWER Summary indicators according to States/UT, GATS 2 India 2016-17**

State/UT	Current tobacco users <sup>1</sup>	Current tobacco smokers <sup>1</sup>	Current users of smokeless tobacco <sup>1</sup>	Adults exposed to second hand smoke at workplace	Adults exposed to second hand smoke at public place	Smokers <sup>2</sup> who made a quit attempt in the past 12 months	Smokers <sup>2</sup> who were advised to quit smoked tobacco by health care provider	Users of smokeless tobacco who were advised to quit smokeless tobacco use by health care provider	Adults who believe tobacco smoking causes serious illness	Adults who believe smokeless tobacco causes serious illness	Adults who noticed any advertisement or promotion of tobacco or bidi cigarette or bidi	Adults who noticed any advertisement or promotion of smokeless tobacco	Average cigarette expenditure per month (Rs.)	Average bidi expenditure per month (Rs)
India	28.6	10.7	21.4	30.2	25.7	38.5	48.8	31.7	92.4	95.6	22.3	20.5	1192.5	284.1
Jammu & Kashmir	23.7	20.8	4.3	57.5	36.4	24.8	50.1	38.8	91.5	94.8	29.2	20.4	2622.5	197.0
Himachal Pradesh	16.1	14.2	3.1	20.5	13.7	41.3	53.3	27.9	95.6	98.1	19.8	15.0	610.8*	245.9
Punjab	13.4	7.3	8.0	23.3	17.5	24.6	33.9	23.9	94.6	98.3	19.1	17.1	2616.0*	131.9
Chandigarh	13.7	9.4	6.1	20.0	14.8	45.0	37.3	54.4	94.1	99.2	12.8	11.2	1290.3	139.4
Uttarakhand	26.5	18.1	12.4	24.5	37.1	35.7	37.6	19.1	98.3	99.2	28.7	32.3	515.5	193.9
Haryana	23.6	19.7	6.3	52.9	34.2	37.4	55.0	46.6	92.6	97.8	30.6	24.5	1349.4*	184.2
Delhi	17.8	11.3	8.8	20.4	30.3	45.7	25.6	12.3	92.9	97.9	42.8	33.8	1528.6	560.0
Rajasthan	24.7	13.2	14.1	25.3	27.2	44.3	53.0	37.5	94.6	95.7	18.7	18.9	835.0*	423.4
Uttar Pradesh	35.5	13.5	29.4	35.7	37.5	45.7	36.5	25.5	95.4	97.9	39.5	36.7	727.9	159.6
Chhattisgarh	39.1	5.5	36.0	21.3	24.4	30.0	48.1	31.3	96.4	98.2	18.2	17.2	473.2*	217.8
Madhya Pradesh	34.2	10.2	28.1	38.0	26.6	42.2	43.0	28.9	88.6	96.5	7.1	12.2	467.8*	117.5
West Bengal	33.5	16.7	20.1	57.5	24.4	35.2	64.4	35.3	96.3	95.7	39.8	36.6	970.4	390.5
Jharkhand	38.9	11.1	35.4	34.0	24.7	18.4	25.8	19.5	77.4	91.2	16.8	16.4	659.5	135.1
Odisha	45.6	7.0	42.9	16.7	11.3	39.6	19.7	19.7	89.2	92.4	37.4	39.8	625.9*	200.3
Bihar	25.9	5.1	23.5	16.8	24.4	32.2	45.1	37.0	96.8	98.0	6.0	6.4	691.0*	106.5
Sikkim	17.9	10.9	9.7	21.9	25.5	22.8	35.2	29.5	77.6	93.1	17.6	13.6	1349.0	508.3

State/UT	Current tobacco users <sup>1</sup>	Current tobacco smokers <sup>1</sup>	Current users of smokeless tobacco <sup>1</sup>	Adults exposed to second hand smoke at workplace	Adults exposed to second hand smoke at public place	Smokers <sup>2</sup> who made a quit attempt in the past 12 months	Smokers <sup>2</sup> who were advised to quit smoked tobacco by health care provider	Users of smokeless tobacco who were advised to quit smokeless tobacco use by health care provider	Adults who believe tobacco smoking causes serious illness	Adults who noticed any advertisement of smoking tobacco or promotion of cigarette or <i>bidi</i>	Adults who noticed any advertisement or promotion of smokeless tobacco	Average cigarette expenditure per month (Rs.)	Average <i>bidi</i> expenditure per month (Rs.)
Arunachal Pradesh	45.5	22.7	39.3	19.7	22.8	26.9	42.2	30.9	90.5	38.3	32.8	1240.7	330.6
Nagaland	43.3	13.2	39.0	26.5	25.7	29.3	49.0	42.2	88.9	25.9	22.8	1473.9	265.5
Manipur	55.1	20.9	47.7	43.3	33.1	30.0	50.2	20.8	94.9	9.7	3.9	351.2	135.8
Mizoram	58.7	34.4	33.5	44.4	23.2	27.4	51.8	37.5	96.7	21.4	11.8	712.6	256.1*
Tripura	64.5	27.7	48.5	25.0	14.3	33.9	64.3	38.8	96.1	30.4	22.8	803.3	316.6
Meghalaya	47.0	31.6	20.3	45.7	29.1	20.7	41.6	53.8	91.0	11.9	7.7	1192.0	181.4
Assam	48.2	13.3	41.7	30.8	16.1	39.8	26.1	30.2	90.2	25.8	24.2	799.4	786.6
Gujarat	25.1	7.7	19.2	20.9	21.6	24.0	48.0	33.4	82.7	31.5	32.9	755.6*	447.7
Maharashtra	26.6	3.8	24.4	20.1	22.9	20.9	45.2	30.2	92.2	13.7	10.1	1028.3*	255.3
Goa	9.7	4.2	6.5	17.9	16.3	20.6	49.1	44.4	89.3	35.5	28.2	530.9*	186.6*
Andhra Pradesh	20.0	14.2	7.1	43.3	22.4	43.1	80.1	47.1	96.5	2.4	1.3	1217.3	158.2
Telangana	17.8	8.3	10.1	30.9	24.0	53.2	88.3	49.4	94.1	10.9	9.5	1005.2	212.9
Karnataka	22.8	8.8	16.3	24.8	28.7	51.5	51.7	63.9	86.4	27.3	23.3	1802.2	352.9
Kerala	12.7	9.3	5.4	20.8	17.1	48.1	60.5	36.4	93.9	10.3	2.7	1166.0	351.0
Tamil Nadu	20.0	10.5	10.6	20.2	18.7	31.7	73.8	59.1	91.1	6.1	4.2	1343.8	522.7
Puducherry	11.2	7.2	4.7	25.3	26.3	51.9	52.1	47.9	96.4	11.0	10.2	1358.6	1071.2

Note: 1 Includes both daily and occasional (less than daily) use

2 Current smokers/smokeless tobacco users and former smokers/smokeless tobacco users who have been abstinent for less than 12 months







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