

# 3.4

## Prevalence of Tobacco Use Among the Youth

A literature review on tobacco use among the youth revealed that information is limited to the district or township level and the methodologies used vary. The Sentinel Survey of the World Health Organization–South-East Asia Regional Office (WHO-SEARO) and Indian Council of Medical Research (ICMR)<sup>19</sup> provided detailed population-based tobacco use prevalence data for youth in the age group of 10–14 years in two states—Uttar Pradesh (boys 3%; girls 0.6%) and Karnataka (boys 1.3%; girls 0.1%). The Global Youth Tobacco Survey (GYTS), supported by the WHO and the Centers for Disease Control and Prevention (CDC), conducted during the years 2000–2004, is the first survey that provides data on youth (13–15 years) for national and international comparison with standardized methodology. The GYTS data are available for 26 major states, which represent 94% of the Indian population.

This section provides estimates of tobacco use among the youth specifically using the school-based GYTS for India.

### Objectives and methodology

The objectives of the GYTS were to examine the prevalence of tobacco use among school-going youth in the age group of 13–15 years, their knowledge about the harmfulness of tobacco, access to tobacco, attitudes towards tobacco use, social beliefs and perceptions, cessation behaviour, exposure to tobacco advertisements and attitudes towards tobacco control.

The GYTS is a school-based, cross-sectional survey that was independently conducted in different

states of India, using a uniform methodology.<sup>65</sup> In brief, GYTS employed a two-stage cluster sample design to produce a representative sample of students in grades eight to ten in both government and private schools, which roughly corresponds to the age group of 13–15 years. At the first stage, the probability of schools being selected was proportional to the number of students enrolled in the specific grades. At the second stage, classes within the selected schools were randomly chosen. All students from the selected classes attending the school on the day of the survey were eligible to participate. For estimating the prevalence rates, weighting factors were applied to each student record to adjust for non-response (school, class and student) and variation in the probability of selection at the school, class and student levels. For the GYTS data presented here, the school response rate ranged from 92% to 100% and the student response rate ranged from 70.1% to 90.6%. This sample provided responses from 53,654 individual students in 26 Indian states, namely Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttaranchal and West Bengal.

### Results

#### Tobacco use prevalence and other variables

The summary of the countrywide results for GYTS India, 2000–2004, are presented in this section under important variables:

**Ever tobacco use:** Ever tobacco use (ever consumed any tobacco product) was reported by one-fourth of students (25.1%); the prevalence ranged from 4.0% (Himachal Pradesh) to 75.3% (Mizoram).

**Current use of tobacco in any form:** Students consuming any tobacco products within 30 days preceding the survey were

considered current tobacco users. Among students in the age group of 13–15 years, 17.5% were current users of tobacco in any form, and current use ranged from 2.7% (Himachal Pradesh) to 63% (Nagaland).

**Current smokeless tobacco use:** Among students aged 13–15 years, 14.6% were current smokeless tobacco users. Users ranged from 2% (Himachal Pradesh) to 55.6% (Bihar).

**Current smoking:** Current smoking in India was reported by 8.3% of students. It ranged from 2.2% in Himachal Pradesh to 34.5% in Mizoram.

### Box 3.3 Tobacco use among students (Grades 8–10)

- 17.5% were current users of tobacco in any form (range: 2.7%–63%);
- 14.6% were current smokeless tobacco users (range: 2.0%–55.6%);
- 8.3% were current smokers (range: 2.2%–34.5%).

(GYTS 2000–2004)

**Smokeless vs smoking:** Clearly, current smokeless tobacco use was significantly more common than current smoking among students aged 13–15 years (Table 3.6). It is to be noted that the total of smokers and users of smokeless forms is higher than that of current users of

**Table 3.6** Tobacco use prevalence and related issues, GYTS India, 2000–2004

	India		Lowest (State)		Highest (State)	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
<b>Prevalence</b>						
Ever tobacco use	25.1	(±1.8)	4.0	(±0.9) <sup>5</sup>	75.3	(±5.3) <sup>26</sup>
Current tobacco use	17.5	(±1.5)	2.3	(±1.1) <sup>5</sup>	62.8	(±3.4) <sup>27</sup>
Current smokeless	14.6	(±1.5)	2.0	(±0.8) <sup>5</sup>	55.6	(±7.5) <sup>16</sup>
Current smoking	8.3	(±1.2)	2.2	(±0.7) <sup>5</sup>	34.5	(±4.5) <sup>26</sup>
Current cigarette smoking	4.2	(±1.2)	0.5	(±0.3) <sup>19</sup>	22.8	(±3.3) <sup>26</sup>
Current use of non-cigarette	13.6	(±1.0)	1.6	(±0.9) <sup>5</sup>	47.4	(±10.6) <sup>24</sup>
Smoker needs tobacco first thing in the morning	57.8	(±5.8)	53.7	(±4.1) <sup>26</sup>	94.9	(±3.8) <sup>29</sup>
<b>Second-hand smoke</b>						
Exposure (inside home)	36.4	(±1.6)	9.9	(±2.9) <sup>8</sup>	79.0	(±10.9) <sup>24</sup>
Exposure (outside home)	48.7	(±1.6)	23.5	(±3.9) <sup>8</sup>	84.4	(±6.1) <sup>25</sup>
Favours smoking ban in public places	74.8	(±1.2)	31.4	(±7.3) <sup>24</sup>	90.9	(±1.9) <sup>21</sup>
<b>Access and availability</b>						
Purchased cigarette in store	65.8	(±7.2)	12.1	(±8.7) <sup>1</sup>	95.7	(±5.6) <sup>10</sup>
Not refused because of age	55.1	(±14.1)	4.2	(±1.7) <sup>13</sup>	98.1	(±2.1) <sup>22</sup>
<b>Tobacco promotion</b>						
Percentage who have seen a lot of advertisements						
For cigarettes on billboards	42.1	(±1.4)	2.8	(±1.9) <sup>16</sup>	73.2	(±5.6) <sup>29</sup>
For <i>beedi</i> on billboards	38.3	(±1.6)		NA		NA
Offered free sample of cigarette	8.1	(±1.3)	0.6	(±0.5) <sup>16</sup>	100.0	(±0.0) <sup>24,26,28,29</sup>
Belongings with cigarette logo	12.4	(±1.3)	1.1	(±0.8) <sup>16</sup>	26.1	(±7.3) <sup>28</sup>
Offered free sample of <i>beedi</i>	8.0	(±1.3)		NA		NA
Belongings with <i>beedi</i> or <i>paan masala</i> logo	14.6	(±1.4)		NA		NA
<b>Cessation</b>						
Wants to stop smoking	68.5	(±7.2)	19.6	(±12.5) <sup>24</sup>	88.9	(±6.9) <sup>1</sup>
Tried to quit smoking	71.4	(±11.7)	8.4	(±3.3) <sup>28</sup>	97.8	(±3.5) <sup>10</sup>
<b>Curricular teaching</b>						
Taught dangers of smoking in class	50.9	(±1.6)	2.7	(±1.9) <sup>16</sup>	75.5	(±5.2) <sup>8</sup>
Taught effects of tobacco in class	47.4	(±1.5)	3.1	(±2.1) <sup>16</sup>	71.4	(±5.4) <sup>8</sup>

States: Chandigarh<sup>1</sup> Chhattisgarh<sup>2</sup> Delhi<sup>3</sup> Haryana<sup>4</sup> Himachal Pradesh<sup>5</sup> Jammu and Kashmir<sup>6</sup> Madhya Pradesh<sup>7</sup> Punjab<sup>8</sup> Rajasthan<sup>9</sup> Uttar Pradesh<sup>10</sup> Uttarakhand<sup>11</sup> Andhra Pradesh<sup>12</sup> Karnataka<sup>13</sup> Kerala<sup>14</sup> Tamil Nadu<sup>15</sup> Bihar<sup>16</sup> Orissa<sup>17</sup> West Bengal<sup>18</sup> Goa<sup>19</sup> Gujarat<sup>20</sup> Maharashtra<sup>21</sup> Assam<sup>22</sup> Arunachal Pradesh<sup>23</sup> Manipur<sup>24</sup> Meghalaya<sup>25</sup> Mizoram<sup>26</sup> Nagaland<sup>27</sup> Sikkim<sup>28</sup> Tripura<sup>29</sup>

NA: not available

tobacco in any form due to overlap, as a small proportion of students used both forms.

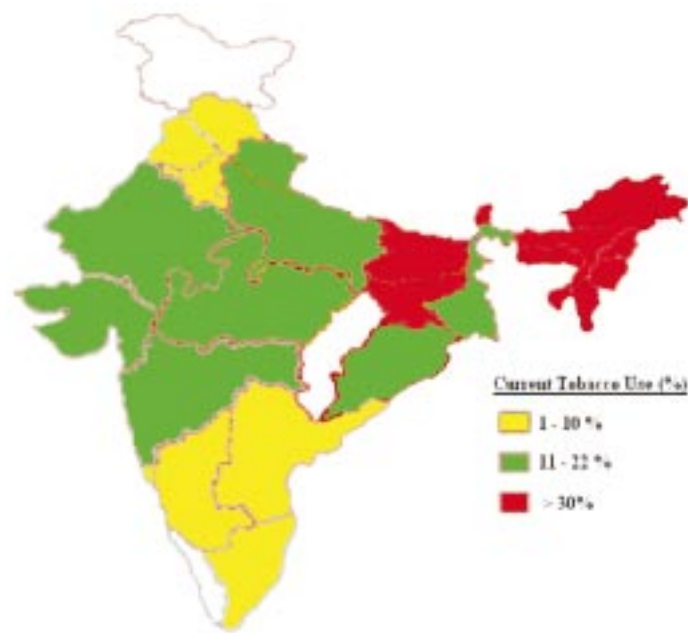
**Current cigarette and non-cigarette tobacco use:** The GYTS India results show that current non-cigarette tobacco use (13.6%) was three times more common than current cigarette smoking (4.2%). The current prevalence of cigarette smoking ranged from 0.5% in Goa to 22.8% in Mizoram, whereas the prevalence of current non-cigarette tobacco use ranged from 1.6% in Himachal Pradesh to 47.4% in Manipur.

**Second-hand exposure:** Over one-third of students (36.4%) were exposed to second-hand smoke inside their homes and nearly half (48.7%) outside their homes. The exposure to second-hand smoke inside the home ranged from 9.9% (Punjab) to 79.0% (Meghalaya) and outside the home it ranged from 23.5% in Punjab to 84.4% in Meghalaya.

### Factors associated with tobacco use

The determinants of tobacco use among the youth are many and varied. First of all, socio-demographic factors such as gender, state and region, and rural versus urban residence were found to be related to tobacco use among these youth. Factors affecting social norms are described next: family influence and tobacco use by friends; curricular teaching; exposure to advertisements in the media and community; access and availability of tobacco products in the area of residence; concurrent alcohol and tobacco smoking; nicotine dependence; desire to quit tobacco use; levels of awareness about the harmfulness of tobacco and attitudes towards government tobacco control policies on access and availability of tobacco products to minors; school policies; tobacco control strategies and tobacco industry tactics to attract the youth.

**Gender:** Positive responses to all the questions on tobacco use were reported significantly more commonly among boys than girls: ever tobacco use (boys 30.4 [ $\pm 2.3$ ], girls 16.8 [ $\pm 2.2$ ]), current any tobacco use (boys 22.0 [ $\pm 2.1$ ], girls 10.3 [ $\pm 1.9$ ]), current smokeless tobacco use (boys 18.5



**Fig. 3.4** Levels of current tobacco use in different states of India, GYTS 2000–2004 (Note: Map not to scale)

[ $\pm 2.1$ ], girls 8.4 [ $\pm 1.9$ ]), and current smoking (boys 10.5 [ $\pm 1.6$ ], girls 4.4 [ $\pm 1.0$ ]).

**State and region:** High prevalence (>30%) was reported in the northeastern states and Bihar, intermediate prevalence (11%–22%) in Gujarat, Maharashtra, Madhya Pradesh, Orissa, Rajasthan, West Bengal, Uttar Pradesh and Uttaranchal, and low prevalence (1%–10%) in Andhra Pradesh, Chandigarh, Delhi, Goa, Haryana, Himachal Pradesh, Karnataka, Punjab, and Tamil Nadu (Fig. 3.4).

**Rural versus urban residence:** The GYTS results from Karnataka, Bihar and Rajasthan revealed that there was no statistical difference in overall current tobacco use among rural and urban students (rural 59.4%, urban 58.2%); however, current *beedi* smoking in rural areas (5.0%) was significantly higher than in urban areas (2.4%) in Bihar. Such information was not available for any other state.

**Family, home, friends and school:** Comparing the GYTS data from 26 states, current tobacco use was significantly correlated with variables such as (i) the percentage of students who have one or more parents using

tobacco (Spearman correlation coefficient=0.77,  $p<0.001$ ); (ii) smoking at home was reported by 36.7% (average) of students, ranging from 8.8% in West Bengal to 96.1% in Uttar Pradesh;<sup>65</sup> (iii) the percentage of students who have most or all friends who smoke (Spearman correlation coefficient = 0.85,  $p<0.001$ ); and (iv) exposure to second-hand smoke inside the home (Spearman correlation coefficient = 0.67,  $p<0.001$ ) and outside (Spearman correlation coefficient = 0.70,  $p<0.001$ ); (v) at school, the level of curricular teaching on topics such as the dangers of smoking and chewing (Spearman correlation coefficient = -0.75,  $p<0.001$ ), and the effects on appearance of smoking and chewing (Spearman correlation coefficient = -0.46,  $p<0.001$ ) were inversely associated with current tobacco use.

The GYTS data from eight northeastern states of India showed that tobacco users were more likely than never-tobacco users to admit that most or all of their friends smoke. Additionally, parental tobacco use was reported two to three times more often by tobacco users as compared to never-tobacco users.<sup>11</sup>

**Curricular teaching:** About half of all students agreed that they had been taught about the dangers of smoking (ranging from 2.7% in Bihar to 75.5% in Punjab) and the effects on appearance of tobacco use (ranging from 3.1% in Bihar to 71.4% in Punjab) (Table 3.6).

**Media and advertisements:** The GYTS revealed that 42.1% and 38.3% of students reported seeing pro-cigarette and pro-*beedi* advertisements 'a lot', respectively. Students reported being equally exposed to *gutka* advertisements on billboards and community events.<sup>66</sup> Over 12% and 14% students reported having some object with a brand logo of cigarettes/*beedi* or *paan masala*, respectively (Table 3.6). Among the GYTS participants in India, about 8% of students were offered free samples of cigarettes and *beedis* by tobacco companies (Table 3.6).

**Access and availability:** Among current smokers, 65.8% purchased cigarettes in a store (ranging from 53.1% [Nagaland] to 95.7% [Uttar Pradesh]) (Table 3.6). Among students who bought cigarettes in a store in the past 30 days, over 55.1% (average) were not refused purchase by anyone because of their age (range: 6.2% in Uttar Pradesh to 98.1% in Assam) (Table 3.6).

**Tobacco and co-morbid alcohol use:** The GYTS data from the eight northeastern states showed that co-morbid smoking and drinking ranged from 6.9% in Meghalaya to 13.1% in Sikkim. Among boys it ranged from 8.5% in Meghalaya to 19.6% in Manipur, and among girls from 2.9% in Manipur to 7.7% in Mizoram.<sup>67</sup>

**Nicotine dependence:** Nicotine dependence, was assessed by one question on whether the respondent needed tobacco first thing in the morning. In the northeastern states, over two-thirds of cigarette-smoking students (especially among boys) and nearly half of smokeless tobacco users reported needing tobacco first thing in the morning.<sup>11</sup>

### Desire to quit tobacco use: Attempts and social support

The GYTS results revealed that over 68.5% (average) of students who smoked wanted to stop (range: 19.6% in Manipur to 88.9% in Chandigarh), whereas 71.4% (average) had already tried to stop smoking during the past year (range: 8.4% in Sikkim to 97.8% in Uttar Pradesh). For all India, 84.6% of cigarette-smoking students had received help or advice to stop smoking from family members, community members, health personnel or friends (range: 10.5% in Sikkim to 97.8% in Uttar Pradesh). In the northeastern states, however, compared to the national point estimate, such help was reported to be low (<39% in 5 of 8 states).<sup>11</sup>

## Awareness of the dangers of tobacco and attitudes towards tobacco control

**Awareness:** Nationwide GYTS data show that 57.9% students agreed that smoke from others is harmful to them (range: 5.1% to 86.3%). Lower awareness levels were seen in the northeastern states as compared to the rest of India.

**Attitudes:** An assessment of attitudes towards tobacco control showed that nearly three-fourths (74.8%) of students (31.4% in Manipur to 90.9% in Maharashtra) thought that smoking should be banned in public places (Table 3.6).

## Discussion

A review of the GYTS data throws up an extremely wide range of variations regarding tobacco use. India, being a country of over one billion people, has the highest and lowest rates for current use of any tobacco product in the world: 3.3% in Goa to 62.8% in Nagaland.<sup>68</sup> These wide differences in prevalence within a country underscore the importance of subnational or regional data, for national estimates can obscure important regional differences within the country.

Many studies conducted during 1989–2004 using different methods have shown that tobacco use among girls students in schools,<sup>13,69–77</sup> colleges<sup>76,78</sup> and medical and dental colleges<sup>42,44,79–84</sup> was low relative to boys and adults in the general population. The results of the India GYTS 2000–2004 are consistent with the above studies; however, in some of the states, there is no statistical difference in the use of cigarette and non-cigarette products between boys and girls.<sup>85</sup> This indicates a breakthrough in social norms in India, where tobacco use by girls and women is considered taboo.

The average percentage of ever-smoker students in the GYTS who smoked their first cigarette before the age of 10 years was 54% (average for 13 states: 8 northeastern states, Bihar, Goa, Maharashtra, Tamil Nadu and West Bengal

[range: 12.0% in West Bengal to 87.8% in Manipur]).<sup>68</sup> Early initiation before 10 years of age was reported to be high in the states where tobacco use prevalence was high. In the northeastern states, ever-tobacco users who first used tobacco before the age of 10 years was more than 65% in all the states except Mizoram (23.9%).<sup>68</sup> In the present review it is clear that early initiation is increasing and demands that environmental factors be properly regulated. A definite strategy for curricular teaching at all academic levels is required.

The GYTS in Bihar and Karnataka revealed that there was no statistical difference in rural–urban current tobacco use among students 13–15 years of age. This may be because of the increasing reach of the tobacco industry in rural areas.

In the GYTS, among students of grades 8–10 in 26 states (53, 654), about 14% of never-smokers (average 13.8%) (range: 4.55% in Punjab to 46.1% in Sikkim) expressed the opinion that they were likely to initiate smoking next year. In Karnataka among college students, although female students interviewed were non-smokers, several suggested that in the future, smoking might be an acceptable behaviour among college-going females.<sup>78</sup> This indicates that the marketing effect of tobacco industry is overriding prevention strategies.

When asked about their perceptions of smoking among the youth in western countries, the majority of college students from different colleges in Karnataka believed that three-quarters of male and female youth in the West smoked and this perception has been largely formed through media images, including satellite television and films. With regard to addiction, it was widely believed that filter-tipped cigarettes were one of the most addictive products because they are made of better quality tobacco, and are milder and smoother to smoke. Therefore, a person could easily smoke more of them, which would lead to addiction. Another widely held belief was that the more expensive the cigarette, the less harmful it was for one's health.<sup>78</sup>

In India the misconception is widespread that tobacco is good for the teeth or health. Specific teeth-related problems have been assigned as the reason for starting tobacco use. In the GYTS reports from the northeastern states of India, tobacco users reported significantly more often that tobacco relieves toothache and helps in morning motions, etc. than did never-tobacco users.<sup>11</sup>

Many companies take advantage of these misconceptions by packaging and positioning their products as dental care products. In India, the 1992 amendment to the Drugs and Cosmetic Act, 1940 prohibits the use of tobacco as an ingredient in dental care products.<sup>12</sup> Tobacco products are used as a dentifrice in different parts of India.<sup>13,70,75</sup> A laboratory test of five samples of red tooth powder that did not declare tobacco as an ingredient, 10 years after the law had been amended, found a tobacco content of 9.3 to 248 mg per gram of tooth powder.<sup>12</sup> A clear strategy addressing this specific issue needs to be planned and implemented. In a GYTS report for 14 states, namely Bihar, Goa, Maharashtra, Uttar Pradesh, Uttaranchal and eight northeastern states, current use of tobacco products as a dentifrice ranged from 6% in Goa to 68% in Bihar.<sup>12</sup>

Parents and teachers are the initial role models for young children. In the northeastern states and Bihar, tobacco use among adults<sup>48,49,86,87</sup> and schoolteachers<sup>37,38</sup> was found to be high and so is the current tobacco use prevalence among students 13–15 years of age. Over 80% of tobacco users in these states showed that they received help from someone within the community.<sup>11</sup> This is one example where preaching does not work unless the role models change themselves too, and practise what they preach. The GYTS revealed that those states having higher levels of curricular teaching have a low prevalence of tobacco use by students. Bihar (teaching 3%, tobacco use by students 59%) and Punjab (teaching 75% and tobacco use by students 3%) may be taken as examples of two extremes.

From different reports on the Global School

Personnel Survey (GSPS) in India<sup>37,38,88</sup> conducted simultaneously with the GYTS, it has been revealed that tobacco policies in schools restricting student smoking (28%) and school personnel smoking (26%) are rarely adopted and enforced. Tobacco prevention instruction by teachers on six different teaching and training measures was low (<35%). A special striking feature was the lack of teaching material and training for teachers regarding tobacco legislation (5%). However, there is evidence that central government schools that adopt tobacco control policies had a low prevalence of current tobacco use among students<sup>89</sup> and school personnel<sup>90</sup> as compared to state schools, which had no policies.

A study<sup>91</sup> from Kolkata found that increased tobacco use was associated with government schools versus private schools. A survey in 45 schools in Mumbai found that tobacco use among boys in their final year in English medium private schools (22.5%) was significantly higher as compared to students from Indian language private (6.9%) and municipal schools (13.8%).<sup>73</sup> The GYTS data show that students in schools under State Government boards reported significantly higher current tobacco use than Union Government board schools in Bihar.<sup>75</sup>

Goa, Delhi and a few other states have policies on tobacco control and these states have a low prevalence of tobacco use among the youth. However, in Delhi and Goa, over 30% and 20% students, respectively, reported that they experienced exposure to second-hand smoke outside their homes in the week preceding the GYTS. Apart from this, there is other evidence that indicates that legislation for tobacco control is not properly implemented in India.<sup>92</sup> About 90% of students in the age group of 13–15 years supported banning smoking in public places. For preventing exposure in public places, the existing law ‘The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 No. 34 of 2003’ needs to be implemented vigorously, while the public needs to be informed about the dangers of second-hand smoke.

### 3.4 PREVALENCE OF TOBACCO USE AMONG THE YOUTH

#### **KEY MESSAGES**

- Tobacco is used by the youth all over India with a wide range of variation among states.
- Two in every ten boys and one in every ten girls use a tobacco product.
- There is no statistical difference in rural–urban current tobacco use among students aged 13–15 years.
- Many youth have the misconception that tobacco is good for the teeth or health.
- Initiation to tobacco products before the age of 10 years is increasing.
- States having higher levels of curricular teaching have a low prevalence of tobacco use by students.