ORIGINAL ARTICLE

Global Youth Tobacco Survey: A Report from Jammu and Kashmir

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Abstract

Global Youth Tobacco question based survey Survey (GYTS) in the state of Jammu and Kashmir in the age group of 13-15 years of age, using study design, method of sampling technique and the actual survey administration followed by standardized, uniform methodologyof GYTS was done to find out prevlance and awareness about harms of smoking.·The study showed high prevlance of tabacco use in the school going children.The perent study streses upon the importance of such surveys regionally so that helath care agencies can plan startergies to combat such increasing use of tobacco in young population

Key words

Smoking, Tobacco, awareness,survey

Introduction

Tobacco is the most important preventable cause of disease and death all over the World (1,2). In spite of the known association of major diseases with tobacco, its continued use is very bothersome for both the health professionals and the policy-planners alike(3). It is a major cause of health care and economic burden in India(4,5).

Inspite of the extensive clinical and research data available on tobacco hazards, the efforts to control its use have been scanty. There is an urgent need to face this challenge and curb the tobacco use. This is especially important among the youth who are more likely to start the habit in their formative years and are also likely to quite the habit in time before the diseases afflict them. There is enough evidence to believe that a majority of smokers start the tobacco use before 18 years of age(6). Such information is however lacking in India. There is evidence to suggest that over 80 percent of chronic obstructive pulmonary disease (COPD) in India is attributable to tobacco smoking(7).

Methodology

We undertook Global Youth Tobacco Survey (GYTS) in the state of Jammu and Kashmir. The Department of Chest diseases, Government Medical College Jammu and Department of Medicine Government Medical College, Srinagar, were actively involved in the study. The target population consisted of school going children of 13-15 years of age, and generally meant students studying in 8^{th}, 9^{th} and 10^{th} grades. The study design, method of sampling technique and the actual survey administration followed the standardized, uniform methodology of GYTS(8,9).

Study Design and Sampling

The study involved a two stage cluster sample design to produce representative sample of students in classes 8^{th} to 10^{th} in both Government and private schools. The sampling from the state required complete enrollment lists of all the schools with class wise strength of both boys and girls. The information was collected from the Directorates of Education, School Boards, and Central Board of Secondary Education District Education Officers were contacted when ever required.The compiled data of schools were sent to CDC for drawing the study samples. At the first stage. Schools were selected with probabilities proportional to the enrollment size. CDC selected 26 schools from the entire state. Within each school, a computer-generated list of random number of classes was produced to randomly select the classes in

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grades 8 to 10 for participation in the survey.

The survey stage of sampling consisted of systematic equal probability sampling with a random start of classes from each school that participated in the survey. All eligible classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey.The survey procedure was designed to ensure confidentiality and voluntary participation. The answer sheet did not contain any information on the identity of the student or of the school.

Questionnaire

The question consisted of a "core" component of GYTS and an "additional" component that included India specific questions prepared in view of the multiple varieties of tobacco use in India. The 85-item questionnaire contained several different sections on demographic data, use of both smoking and nonsmoking forms of tobacco, attitude to tobacco use, knowledge of tobacco hazards, exposures to environmental tobacco smoke (ETS), school curriculum, media advertising and other variables. Each item was multiple choice question with a single answer. There was no skip or branching pattern of any question. It was a self administered questionnaire and all questions were required to be answered.

We used the Urdu translation of the questionnaire, since Urdu is the medium of instruction in schools in the state. The Urdu version was translated from the English questionnaire used elsewhere in India. It was pre-tested in at least two focus group discussions in the state and for repeatability by the test-retest method, before actual field administration.

The survey was conducted after obtaining permission of the Directorate of School Education and of the Principal of the school to be studied. A training workshop was held for the field investigators who were required to administer the survey.For the actual questionnaire administration all the students of the class were collected in a classroom. The class teacher was not present during that time. Students were explained the purpose of the study and instructions to respond to the questionnaire. Individual confidentiality of students was ensured.

Data Analysis

Data were collected separately for each State, and all completed questionnaires were sent to CDC where the answer sheets were optically read. Primary analyses were done using EpiInfo 3.2 software (a public domain epidemiological and statistical package from CDC), and accounted for the complex sampling design and weighing factors in the data set. To reduce the bias, a weight was assigned to each questionnaire by compensating for differing patterns of non-response.The weight (W) used for estimation was :

W= W1x W2 x f1 x f2 xf2 xf4

Where W1 was the inverse of the probability of selecting the school, W2 was the inverse of the probability of selecting the classroom within the school, f1 was a school-level non-response adjustment factor calculated by school size category (small, medium, large), f2 was a class adjustment factor calculate by school, f 3 was a student level non-response adjustment factor calculated by class, and f4 was a post stratification adjustment factor calculated by grade (forms) and gender.

Statistical differences were determined by comparing the estimates and their variances and respective ranges of 95% confidence interval s (C1). Since the study population was neither random nor unbiased systematic sample, this exercise needed to account for (a) cluster sampling, (b) stratification and (c) unequal sampling rates. The Taylor Linearised Deviation approach to variance estimation was therefore adopted(10). If the ranges for the 95% C1 did not overlap, the differences were considered significant.

Table 1. Sample Details and Response Rates

Number of Schools selected	26
Number of schools participating	26 (100%)
Student sample selected	3207
No. of students responding	2,767 (86.3%)
Overall response rate	86.3%.
Gender*	
Boys	1599 (61.3%)
Girls	1055 (38.&%)

**After exclusion of missing responses*

Results

A total of 2767 students completed the survey conducted in Jammu and Kashmir, the overall response rate of 86.3% (Table 1).Boys outnumbered girls. A total of 22.4 percent students had ever used a tobacco product, with a marginally higher figure for boys (Table 2). The proportion of students currently using tobacco, both in smoked and smokeless forms, was variable among boys and girls. In contrast to other forms of tobacco use, current bidi smoking was slightly more prevalent in girls as compared to boys (Table 2). More students smoked cigarettes as compared to bidi. Less than half of all students reported being taught the dangers and reasons of smoking in their class. However, more than half had discussed tobacco and health as part of a lesson in class (Table 3).

The vast majority of current smokers expressed a desire that they wished to discontinue smoking (Table 4). Most of the current smokers had also tried quitting in the past one year. The proportion of boys and girls who had attempted quitting in the last one year was similar (Table 4). The Proportion of students exposed to environmental tobacco smoke at home and outside was variable. In general, current smokers were exposed to environmental tobacco smoke more frequently than never smokers, both at home and outside (Table 5). About 70% of never smoker students felt that smoking should be banned from public places; this figure was significantly higher than that of current smokers (Table 5). More never smokers that current smokers thought that smoke from other people were harmful to them (Table 5). More than half of all students felt that tobacco smoking or use of smokeless tobacco was definitely harmful to health (Table 6).

Several students had been offered free tobacco products (cigarettes, bidis, and/ or pan masala or gutka) by tobacco companies (Table 7). These figures were largely similar among never smokers and current smokers, except that significantly more number of girl's

Table 2. Tobacco Users

	Total%	Boys %	Girls%
Ever used tobacco	22.4(+4.6)	24.2(+3.2)	17.9 (+8.3)
Any Tobacco product	30.8 (+6.8)	31.8 (+6.7)	27.8 (+9.2)
Any smoked product	22.5 (+14.9)	25.0 (+14.9)	17.7 (+17.0)
Cigarette	12.7 (+13.0)	14.9 (+13.4)	8.0 (+13.5)
Bidi	7.0 (+12.7)	6.2 (+12.8)	6.9 (+13.2)
Gutkha/ Pan Masala	7.7 (+12.5)	7.4 (+13.1)	7.4 (+13.4)
Betel quid with tobacco	1.7(+0.8)	1.9(+0.7)	0.8 (+0.5)

Figures in parenthesis are standard deviation

Table 3. Taught in School Curriculum

	Total%	Boys%	Girls%
Dangers of smoking	42.3(+11.7)	45.7(+10.3)	38.2(+14.9)
Reasons of smoke or chew	32.7(+7.7)	35.9(+9.9)	28.4(+9.3)
Eeffects of tobacco use	50.9(+11.6)	57.4(+9.0)	41.5(+15.7)
Tobacco as lesson in class	56.5(+9.2)	60.8(+9.6)	51.6(+15.4)

Figures in parenthesis are standard deviation

Table 4. Tobacco cessation among current smokers

	Total %	Boys%	Girls%
Desire to stop:			
Cigarette	69.9(+9.9)	73.7(+10.3)	59.5(+32.6)
Bidi	73.7(+10.3)	74.3(+22.7)	78.9(+16.4)
Tried to stop this year :			
Cigarette	61.9(+11.3)	63.5(+9.7)	55.1(+34.9)
Bidi	60.7(+15.9)	62.9(+17.4)	63.5(+28.3)

Figures in parenthesis are standard deviation

Table 5. Environmental tobacco smoke exposure

	Total %	Boys%	Girls%
Exposed to smoke from others in their home in the past 7 days			
Never Smokers	41.9(+4.7)	45.8 (+5.4)	34.9(+6.4)
Current Smoker	70.9(+7.3)	72.5(+8.8)	66.4 (+15.5)
Exposed to smoke from others outside their home in the past 7 days			
Never Smokers	50.5(+5.0)	56.5(+7.3)	41.9(+8.6)
Current Smoker	79.3(+5.4)	79.7 (+8.0)	75.9(+8.1)
Percent who think Smoking should be Banned from public places			
Never Smokers	70.6(+9.9)	73.7(+8.5)	67.7(+13.4)
Current Smoker	44.61(+15.4)	45.9(+15.4)	42.1(+16.1)
Percent who definitely think smoke from others is harmful them			
Never Smokers	50.8(+12.5)	48.4(+11.7)	55.9(+15.9)
Current Smoker	29.1(+15.6)	32.7(+15.4)	23.7(+20.2)

Figures in parenthesis are standard deviation

currently smoking bidis were offered free bidis as compared to those who had never smoked. Almost a third of current smokers reported that they frequently smoked at home; this proportion was marginally higher for girls than for boys (Table 8). More than half of those currently using tobacco products regularly purchased their requirements form stores (Table 8). Almost one-third of such students had not been refused purchase because of their age (Table 8).

Table 6. Perceptions about harmful effects of smoking

	Total %	Boys%	Girls%
% who think smoking is definitely harmful to their health.	54.6(+11.8)	51.8(+12.0)	60.8(+14.1)
% who think that chewing/ Applying is definitely harmful to their health	52.0(+11.9)	49.2(+10.7)	58.3(+18.7)

Figures in parenthesis are standard deviation

Table 7. Proportion of students offered free tobacco products

		Total%	Boys%	Girls%
Percent offered a free cigarette by a tobacco company				
	Never tobacco user	20.8(+6.8)[b]	27.2(+8.9)	11(+4.4)
	Current Cigarette smoker	16.6(+9.4)	15.0(+9.7)	22.8(+16.2)
Percent offered a Free gutkha/pan Masala by a tobacco company				
	Never tobacco user	20.8(+16.5)[b]	27.I(+8.8)	11.0(+5.4)
	Current bidi smoker	32.4(+9.4)	26.1(+9.7)	42.1(+16.2)
Percent offered free Gutkha/Pan masala by Gutkha/Pan masala by Tobacco company				
	Never tobacco user	27.5(+8.0)	31.5(+9.2)	21.7(+13.5)
	Current chewer/ Applier	39.8(+9.4)	43.6(+14.3)	34.7(+12.7)

Figures in parenthesis are standard deviation, [a]Significant difference from never tobacco user; [b]Significant difference between boys and girls.

Table 8. Access and availability of tobacco products

	Total%	Boys%	Girls%
%of current smokers who usually Smoke at home	35.3(+13.2)	32.1(+16.7)	43.6(+18.3)
%of current smokeless Tobacco chewers/appliers who chew/apply Tobacco at home at home	33.3(+11.9)	38.4(+12.2)	26.1(+16.4)
% of current tobacco users who purchased tobacco products in a store	52.1 (+9.3)	56.5(+11.2)	47.1(+12.3)
% of current tobacco users who bought tobacco in a store and were not refused purchased because of their age	33.2(+18.4)	22.4(+16.1)	55.4(+26.1)

Figures in parenthesis are standard deviation

Discussion

Unfortunately, tobacco use is on the rise in several developing countries including India (3). There is also serious concern that many tobacco companies, which face strict government regulations on anti-smoking measures in the Western World, have increased their attention to, and investments in. the developing world that is being used as a dumping ground. This has also been made easy due to increased economic liberalization and globalization(3).The burden of tobacco associated diseases such as the COPD in India is as, or even more serious than in several other countries. Similarly, exposure to smoking from others (i.e. passive smoking) has also been recognized as an important health hazard (11,12). Almost similar association of tobacco smoking with respiratory health are reported from India (13-16).

The study has provided useful information on not only the prevalence of tobacco use among the school youth but also on the exposure to ETS. Both these exposures together have a great bearing on the prevalence of tobacco to associated diseases occurring later in adulthood. The significance of prevalence data on tobacco use in the youth is important both to assess tobacco as a risk factor and understand control measures for prevention of those diseases. The data also provided an opportunity for comparative analyses and assessment of tobacco associated diseases in different groups and populations.

India is a country of diverse cultures and multiple religious. The prevalence of tobacco use, which is also based on religious and culture beliefs, is also variable Nationwide figures from different states are not yet widely available, although the effort is on under the GYTS Project. The prevalence rates in four north Indian regions

(Chandigarh, Punjab, Haryana and Himachal Pradesh) were 7.1 to 16.6 percent in an earlier GYTS survey(17). The corresponding figures for Jammu and Kashmir are thus much higher than the neighboring north Indian states. The prevalence rates from the North Eastern Indian States varied around 10 percent in Manipur and Meghalaya(17). In the North East, the highest rates were seen in Mizoram (18.5%) and the lowest in Tripura (2.5%)(17). The prevalence of ever use tobacco was high in Bihar (19.5%), between 8 to 10 percent in Maharashtra and West Bengal and less than 4 percent in Goa and Tamil Nadu.Another observation of great significance is that of significant exposure to tobacco use and/or ETS amongst youth (Table 5). ETS exposure at home could be mostly attributed to parental smoking. ETS exposure is important for its harmful cumulative effects and predisposes the children to respiratory infections(18).Smoking in parents has been shown to have as association with dental caries in five year old children (19). Moreover, any kind of tobacco use by the parents and /or sibs is also a trigger or an incentive for the youth to start and/or continue smoking. Parents significantly constitute a role model in the development of youth as parental smoking and smoking experimentation in childhood has been shown to increase the risk of being a smoker in the adult life(20). Prevention programmes need to be imposed early in the elementary schools with cessation policies to target all the school children(21).

Smoking continues to remain a major cause of morbidity and mortality from respiratory disorders, as well as several other diseased including cancers. There is a strong need to augment efforts to control the tobacco epidemic. Significantly, a majority of students had expressed a desire to quit and over 60% percent had tried in the past year. It is therefore, important to target this population and provide education and help. Both tobacco control and tobacco cessation activities continue to remain important public and personal health issues.

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