A CROSS COUNTRY COMPARISON OF TOBACCO USE AMONG YOUTH IN YEREVAN, ARMENIA AND NEW DELHI, INDIA

Master in Public Health Integrating Experience Project Professional Publication Framework

by

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CONTENT

AKNO	OWLEDGEMENT	5
LIST	OF ABBREVIATIONS	6
ABST	TRACT	7
1 INT	RODUCTION	10
1.1	Literature review	10
1.2	Global Youth Tobacco Survey	10
1.3	Situation in Armenia	11
1.4	Situation in India	12
1.5	Rational for study	12
1.6	Research Questions	12
2 ME	THODS	13
2.1	Data sources	13
2.2	Questionnaire	13
2.3	Analysis	14
2.4	Ethical considerations	14
3 RE	SULTS	15
3.1	Bivariate Analysis	15
3.2	Multivariate Binary Logistic Regression Analysis	17
4 DIC	COLIGGION	10

4.1 Limitations	20
4.2 Strengths	20
CONCLUSION AND RECOMMENDATIONS	20
APPENDIX A TABLES	25
Table 1 Student's demographic variables stratified by city of residence	25
Table 2 Student's smoking and student's environmental and familial smoking characteristics	S
by city of residence	26
Table 3 Final multivariate logistic regression with city of residence (New Delhi vs. Yerevan	ı) as
the outcome and smoking risk factors as covariates	26
Table 4 Final multivariate logistic regression with regular smoking vs. non-regular smoking	; as
the outcome, city of residence (New Delhi vs. Yerevan) and smoking risk factors as covariate	s 27
APPENDIX B GRAPHS	27
Graph 1(a) Regular smoking prevalence by gender and by city of residence	27
Graph 1(b) Regular smoking prevalence rates among student by age group and by city of	
residence	28
Graph 2(a) Beliefs of students about social network of smoking boys whether they have mo	ore,
less or equal number of friends than non-smoking boys by city of residence	29
Graph 2(b) Beliefs of students about social network of smoking girls whether they have mo	ore,
less or equal number of friends than non-smoking girls by city of residence	29

	Grapi	n 3 Pe	ercentage of students who reported that if their best friend offered them a cigarette	
	they w	vould d	efinitely or probably smoke a cigarette or definitely or probably not smoke a	
	cigare	tte		30
	Graph	h 4(a)	Percentage of participants reported seeing anti-tobacco references on posters in	
	Yerev	an duri	ng the last month by smoking status	31
	Graph	h 4(b)	Percentage of participants reported seeing anti-tobacco references on posters in	
	New I	Delhi d	uring the last month by smoking status	32
A	PPENI	OIX C	CODE BOOKS	32
	C.1 N	New C	odebook	32
	C.2 (Codebo	ook of GYTS 2004 for Armenia.	43
	C3 (Codeba	ook of GVTS 2001 for India	68

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LIST OF ABBREVIATIONS

CDC Centre for Disease Control and Prevention

COPD Cronic Obstructive Pulmonary Diseases

CVD Cardio Vascular Diseases

GYTS Global Youth Tobacco Survey

MOH Ministry Of Health

NGO Non Governmental Organization

TFI Tobacco Free Initiative

WHO World Health Organization

ABSTRACT

Introduction

Tobacco use is one of the major preventable causes of death. Smoking rates among men in Armenia have been consistently high, being one of the highest rates among men. In India tobacco smoke is responsible for half of all the cancers in men and quarter of all the cancers in women. With the GYTS having been conducted in both countries, a comparative secondary analysis of the data from cross-sectional GYTS surveys (in 2004 for Yerevan and 2001 for New Delhi) will identify differences and similarities in risk factors for smoking among youth that will inform and improve interventions to reduce smoking in these two countries and possibly in other countries.

Methods

Data obtained from GYTS for both the cities were cleaned and edited and a new questionnaire codebook of 32 questions similar to core questionnaires as obtained for both the cities was conducted. Secondary data analysis was conducted by the student researcher. Frequencies, bivariate analyses and multivariate logistic regression analyses was conducted.

Results

Regular smoking rates were higher in the earliest ages in New Delhi as compared to Yerevan, the increase in the rates were higher in Yerevan than New Delhi and thus the regular smoking rates were higher in Yerevan for older students. Percent of students in Yerevan who has at least one parent smoking is 68.6% as compared to 41.1% in New Delhi. Two-thirds (66.2%) of the students in Yerevan reporting that they would definitely or probably smoke if their best friend offered them a cigarette, whereas only 8.3% of the students in New Delhi would definitely or probably smoke a cigarette if they were offered by their best friend. Using multivariate logistic regression controlling

for confounders, having a smoking father, accepting and smoking a cigarette from a best friend, and encountering anti-smoking references in newspapers and magazines were all more likely in Yerevan than New Delhi. Whereas, having a family member discuss the harmful effects of smoking and encountering anti-smoking references on posters were more likely in New Delhi than in Yerevan. A logistic regression model with regular smoking vs. non-regular smoking as the outcome, city of residence (New Delhi vs. Yerevan) and smoking risk factors as covariates shows that having a smoking father, accepting and smoking a cigarette from a best friend, encountering anti-smoking references on posters and encountering anti-smoking references in newspapers and magazines were all more likely for regular smokers than non-regular smokers. Whereas, having a family member discuss the harmful effects of smoking were more likely in non-regular smokers vs. regular smokers.

Conclusions

Students in Yerevan initiate smoking later than students in New Delhi. Smoking fathers are role model for their sons. Having family members discussed the harmful effects of tobacco and reducing peer pressure could potentially reduce regular smoking rates. Anti tobacco campaigns are noted in posters and in newspapers and magazines more by non-regular smoking youth than regular smoking youth. There remain unknown and unmeasured cultural and environmental factors that differ between Yerevan and New Delhi and are associated with smoking rates.

Recommendations

Smoking fathers should be targeted in anti-tobacco campaigns implemented by Ministry of Health and Non Governmental Organizations as they are role model for their sons. Family members should be included in these campaigns to prepare them to conduct family discussions about the

dangers of smoking with their children. Anti-tobacco references on posters and in newspapers and magazines should target on non-regular smokers among students as they are more often noted by non-regular smokers. More studies need to be conducted to explore unknown and unmeasured cultural and environmental factors that are associated with smoking rates.

1 INTRODUCTION

1.1 Literature review

Tobacco use is one of the major preventable causes of death in this world. According to the World Health Organization over four million people die each year because of the use of tobacco (1). This figure is projected to become ten millions in 2030 and 70% of them will be in developing countries (2). Studies show that majority of smokers start using tobacco before the age of 18 years (3). If current smoking patterns continue, then over 250 million people alive today worldwide will die due to diseases caused by tobacco use (4). Studies have consistently shown that tobacco use contributes to mortality by increasing deaths due to lung cancer, cardiovascular disease (CVD), chronic obstructive pulmonary diseases (COPD)and others (5). Globally, tobacco-related deaths are rising mainly because of increasing rates of cigarette smoking in developing countries (6). Children frequently exposed to secondhand tobacco smoke may also be at greater risk of developing atherosclerosis as adults. Secondhand smoking has been associated with increased risk of atherosclerosis in adults through altering arterial structure and lipid profiles, and there is growing evidence that passive smoking triggers this process in childhood (7). Paternal smoking also diverts money from basic necessities such as food, clothing, healthcare and shelter to cigarettes which also adversely affects child health (8).

1.2 Global Youth Tobacco Survey

As a means to monitor tobacco use among youth to provide information for tobacco control programs, the World Health Organization's (WHO's) Tobacco Free Initiative (TFI) and the U.S. Centers for Disease Control and Prevention (CDC) Office on Smoking and Health developed the Global Youth Tobacco Survey (GYTS). The GYTS is a school based survey that collects data from

students aged 13 to 15 years using a standardized methodology to construct a sample frame, select the schools and classes for sampling, and processing the data. The GYTS uses a two-stage cluster sampling design to acquire representative samples of students ranging between 13 to 15 years of age (9).

1.3 Situation in Armenia

Smoking is a major public health issue in Armenia, particularly affecting socially-vulnerable men and young women living in urban areas (10). Smoking rates among men in Armenia are one of the highest among men worldwide (10). According to national survey on drug, alcohol and smoking prevalence among general population of Armenia, 2005 smoking rates among men (age-group-16 years and above) is 59.8% (11). Smoking rates among women have been increasing and appear to gain impetus from transnational tobacco company promotional activities (10). According to the GYTS conducted in 2009 in Armenia, the prevalence of school children (13 to 15 years of age) who use tobacco was 19.1%, consisting of 30.0% for boys and 9.9% for girls (12).

1.4 Situation in India

In India tobacco smoke is responsible for half of all the cancers in men and a quarter of all the cancers in women (13). The WHO predicts that in India tobacco deaths may exceed 1.5 million by 2020 (14). According to GYTS conducted in 2006 in India, the prevalence of school children ages 13 to 15 years of age who smoke tobacco is 14.1%, consisting of 17.3% for boys and 9.8% for girls, less than the rates in Armenia (15).

1.5 Rational for study

With the GYTS having been conducted in both countries, a comparative secondary analysis of the data from cross-sectional GYTS surveys (in 2004 for Armenia and 2001 for India) will identify differences and similarities in risk factors for smoking among youth that will inform and improve interventions to reduce smoking in these two countries and possibly in other countries. The two countries were selected for comparison based on convenience because the student researcher is from India and currently resides in Armenia. The current study evaluated smoking risk factors for only the two capital cities, Yerevan (Armenia) and New Delhi (India), to focus on the larger rates in urban areas and to assure similarity in unknown confounding factors that were associated with capital cities. Both of the selected surveys were conducted prior to laws banning tobacco product advertising. Using the GYTS surveys, the comparative associations of beliefs and attitudes towards smoking, youth tobacco experimentation patterns, family and friends smoking patterns and tobacco media advertising with youth smoking rates were evaluated. These associations would enhance the approach, evaluation, design and implementation of more effective projects in the field of tobacco control and prevention among youth of these countries and possibly in other countries (16).

1.6 Research Questions

- 1. What are the differences and similarities between smoking practices, beliefs and attitudes of school- based students 11 to 17 years of age in Yerevan, Armenia and New Delhi, India?
- 2. What are the differences and similarities between students' familial and environmental factors influencing smoking among youth in school 11 to 17 years of age between Yerevan, Armenia and New Delhi, India?
- 3. What are the differences and similarities in risk factors associated with initiation of smoking among youth in school 11 to 17 years of age between Yerevan, Armenia and New Delhi, India?

2 METHODS

2.1 Data sources

Data sets and the core questionnaire codebook for GYTS 2001 for New Delhi, India, were obtained from the WHO official website (http://www.who.int/tobacco/surveillance/gyts/en/index.html). Data sets and the core questionnaire codebook for GYTS 2004 for Yerevan, Armenia were obtained from the coordinator of the state tobacco control program at the Ministry of Health of Republic of Armenia. Some important variables and variable categories of interest were constructed for applications of analyses. Data cleaning and editing were done using SPSS 11 software for constructed variables with checks for errors and correction of extreme values.

2.2 Questionnaire

A new codebook of common questions was created by a matching process using the 69 questions from GYTS 2001, New Delhi, India and the 90 questions from GYTS 2004, Yerevan, Armenia. Only 32 questions were the same in the GYTS for both countries and included in the new codebook. The codebook is presented in Appendix C. Some questions were similar in the two GYTS' but had a different number of options for answers; in this case appropriate options were collapsed to compare the cities. Some of the questions were incorrectly translated and were corrected. Participants who reportedly had never smoked or smoked less than one cigarette a day were defined as non- regular smokers. Participants who reportedly smoked one or more cigarettes a day were defined as regular smokers. Participants who reportedly had ever made at least one inhale of a tobacco cigarette were defined as experimenters.

2.3 Analysis

Secondary data analysis of the two respective datasets was done by using SPSS 11 software. Frequencies of variables such as demographics, prevalence of tobacco use, attitudes, familial smoking patterns, media advertising and the dangers of tobacco use been taught in school curriculum with respect to gender and smoking status were created. Cross tabulation of some descriptive variables and some key variables by city, smoking status and age group was conducted. Binary logistic regression analysis of some independent variables such as age, gender etc. with city and smoking status as an outcome of interest was done to control for confounding.

2.4 Ethical considerations

Institutional Review Board of American University of Armenia reviewed and approved the study.

3 RESULTS

3.1 Bivariate Analysis

Sample size was 12,086 students in the New Delhi survey and 560 in the Yerevan survey. Table 1 presents the descriptive characteristics of participants by city of residence. Given that the percent of students in Yerevan who has at least one parent smoking is 68.6% and that of New Delhi is 41.1% and their sample sizes is 560 and 12086 students in both the city respectively, power was calculated, which was little less than 1.00.

Table 1 show that the surveys in the two cities were statistically significantly different with respect to gender distribution and in distributions of smoking status and age groups. Graph 1(a) shows that boys have higher smoking rates than girls in both cities. Graph 1(b) shows similar trends in increasing smoking rates as age increases in both the cities.

Other important descriptive variables stratified by city are shown in table 2. This table shows that in the study the percent of students in Yerevan who had at least one parent smoking is 68.6% as compared to 41.1% in New Delhi, a percent difference of 27.5% (p<0.001). There was a difference of 11% between the percentages of participants in Yerevan who had experimented with cigarettes (at least one puff on a cigarette) and those in New Delhi, with Yerevan percentages higher (p<0.001). There was a difference of 1% between the percentages of participants who were regular smokers in New Delhi and those in Yerevan (5.1% and 4.1% regular smokers, respectively. Percentage of participants who reported that they had been taught about the dangers of smoking in schools is 31.0% in Yerevan as compared to 51.1% in New Delhi, a percent difference of 20.1% (p<0.001). The percent of participants who reported that harmful effects of smoking had been

discussed by their family members is 73.2% in Yerevan as compared to 55.9% in New Delhi, a difference of 17.3% (p<0.001).

Graph 2 (a) shows that when asked whether smoking boys have more, less or equal numbers of friends when compared to non-smoking boys, there were substantial differences between Yerevan and New Delhi student. The large majority of Yerevan students (74.2%) responded that smoking and non-smoking boys had equal numbers of friends, whereas in New Delhi the student population was similarly divided between more, less and equal numbers of friends (p<0.001). However, graph(b) showed that when asked whether smoking girls have more, less or equal numbers of friends when compared to non-smoking girls, Yerevan and New Delhi student responses had similar distributions, with the majority of students responding in both cities that smoking girls had fewer friends (50.8% and 54.9%, respectively).

Graph 3 shows percentages for both students in Yerevan and New Delhi who reported that if their best friend offered them a cigarette they would definitely or probably smoke a cigarette or definitely or probably not smoke a cigarette. There were substantial differences between students in the two cities, with two-thirds (66.2%) of the students in Yerevan reporting that they would definitely or probably smoke a cigarette if their best friend offered them a cigarette, whereas only 8.3% of the students in New Delhi would definitely or probably smoke cigarette if their best friend offered them the cigarette (p<0.001).

Graph 4(a), which includes only Yerevan students, and Graph 4(b), which includes only New Delhi students, show differences between regular smoking and non-smoking students in whether they noticed anti-tobacco references on posters. In Yerevan, smokers were more likely to notice anti-

tobacco references on posters than non-smokers (p<0.001), whereas in New Delhi, the pattern was reversed (p<0.001).

3.2 Multivariate Binary Logistic Regression Analysis

Binary logistical regression analyses included covariates that were found to be statistically significant from the bivariate analyses or important in the literature or were confounders.

Table 3 provides the final logistic regression model with city of residence (New Delhi vs. Yerevan) as the outcome and smoking risk factors as the covariates. Age and gender were maintained in the model as confounders. Having a smoking father, and accepting and smoking a cigarette from a best friend were all more likely in Yerevan than New Delhi. Whereas, having a family member discussed about the harmful effects of smoking and encountering many anti-smoking references on posters, and encountering many anti-smoking references in newspapers and magazines were more likely in New Delhi than in Yerevan.

Table 4 provides the final logistic regression model with regular smoking vs. non-regular smoking as the outcome, city of residence (New Delhi vs. Yerevan) and smoking risk factors as covariates. Age and gender were maintained in the model as confounders. Having a smoking father, and accepting and smoking a cigarette from a best friend were all more likely for regular smokers than non-regular smokers. Whereas, having a family member discussed the harmful effects of smoking, encountering many anti-smoking references on posters and encountering many anti-smoking references in newspapers and magazines were more likely in non-regular smokers vs. regular smokers. There was also a high odds ratio of 7.42 for city of residence (New Delhi vs. Yerevan) for regular smokers as compared to non-regular smokers.

4 DISCUSSION

After a review of the literature, no other published study was found in which a cross-country comparison of smoking risk factors among youth has been done between India and Armenia.

There were some substantial differences in beliefs and attitudes towards smoking between students in Yerevan and students in New Delhi. Female students at these ages in the early part of the 2000-2010 decade were more likely take up regular smoking in New Delhi than in Yerevan, though in both cities the majority of regular smokers were boys. Yerevan students were much more likely to believe that whether boys smoked had no effect on the number of friends that they had, where in New Delhi students were near-equally divided in their opinion whether smoking students had more, less or equal numbers of friends. However, the majority of students in both Yerevan and New Delhi believed that smoking girls would have fewer friends than non-smoking girls.

Various differences in smoking patterns and risk factors were found between Yerevan and New Delhi. The study found that though regular smoking rates were higher in the earliest ages in New Delhi as compared to Yerevan, the increase in the rates were higher in Yerevan than New Delhi and thus regular smoking rates were higher in Yerevan for older students.

The final regression model presented in table 3, with city of residence as the outcome, was used to identify any substantial differences in risk factors or protective factors for regular smoking between the two cities. After adjusting for age, gender and for other covariates, fathers were almost twice more likely to be smokers in Yerevan than in New Delhi—this is important because fathers are often role model for their sons. Also, in the same multivariate analysis students in Yerevan were much more influenced by peer pressure to smoke, these students were twenty times more likely to

accept and smoke a cigarette offered by their best friend than their counterparts in New Delhi. Students in New Delhi were more than three times more likely to have their family member discussed about the harmful effects of smoking to them than in Yerevan. Many Anti-smoking references seen on posters and encountered in newspapers and magazines were common among New Delhi students than as compared to those of their counterparts in Yerevan, for example this may reflect differences in choices of venues for anti-smoking campaigns between the two cities or differences in where students gather and what they read between the two cities.

Though these differences were established between the students in the two cities, it does not establish whether these factors are also associated with smoking. The final multivariate logistic regression model presented in Table 4, with regular smoking as the outcome and city of residence along with risk factors and protective factors for smoking as independent covariates, was developed to find factors substantially associated with smoking.

Table 4 found that, after adjusting for age, gender, city of residence and for other covariates, having a father who smokes is associated with more than a quarter increase in odds for regular smoking and more likely to accept and smoke a cigarette offered by their best friend increased odds of regular smoking by more than 11 times. Having a family member discussed the harmful effects of smoking reduced odds of regular smoking by more than a quarter. Anti-smoking references were more likely to be noticed by non-regular smokers. The large odds ratio for city of residence of 7.4 indicates that there are many environmental/cultural factors that are associated with risk of smoking that are unmeasured by this survey instrument and unknown.

According to an unpublished Master thesis that evaluated smoking attitudes and behaviors of Indian medical students studying in Armenia in 2009, smoking rates increased rapidly in the 3rd

year of medical studies (17). This can be explained by adaptation of the students to the new culture, consistent with the findings of the current study which found that social and cultural factors (known and unknown) are strongly associated with initiation of smoking among youth

4.1 Limitations

Given the sample size, there were too few girls who smoked to analyze them separately from boys. Some of the questions were dropped because there was no adequate match between the survey instruments.

4.2 Strengths

The large sample size of the New Delhi survey and the adequate sample size of the Yerevan survey provided much more than adequate power for the study. The two data sets were only three year apart from each other (2001 and 2004) and were taken prior to the year in which laws to ban of tobacco advertisement were not yet passed.

5 CONCLUSION AND RECOMMENDATIONS

Given that students in Yerevan initiate smoking later than students in New Delhi, this provides a larger window of opportunity to intervene before students start smoking in Yerevan. Having family members discussed the harmful effects of tobacco and reducing peer pressure could potentially substantially reduce regular smoking rates. Fathers who stop smoking may also help to reduce student smoking rates. Anti-tobacco campaigns are noted in posters and in newspapers and magazines more by non regular smoking youth than regular smoking youth, which is a protective

factor for non-regular smokers. There remain unknown and unmeasured cultural and environmental factors that differ between Yerevan and New Delhi and are associated with smoking rates. These factors require more study, especially using cross-country comparisons to better inform policies and interventions to reduce smoking rates among youth.

Findings from this study suggest the following recommendations to the Ministry Of Health (MOH) and Non Governmental Organizations (NGO) of both the countries as target audiences, implementing anti-tobacco campaigns to reduce smoking rates among students (11 to 17 years of age):

- Smoking fathers should be targeted in anti-tobacco campaign as they are role models for their children, especially for their sons.
- Family members should be included in campaigns which will prepare them to conduct family discussions about the dangers of smoking with their children.
- Anti-tobacco references on posters and in newspapers and magazines should especially target non regular smokers among students because they are more often noted by nonsmoking students.
- More studies need to be conducted to further explore unknown and unmeasured cultural
 and environmental factors that are associated with smoking rates to better inform and
 improve tobacco control efforts.

BIBLIOGRAPHY

(1) Warren C. Tobacco use among youth: a cross country comparison. 2010. BMJ.

Ref Type: Generic

(2) Warren C. Tobacco use among youth: a cross country comparison. 2010. BMJ.

Ref Type: Generic

(3) foley TS. preventing tobacco use among young people. 1-3-1994. Centre for Disease

Control and Prevention.

Ref Type: Generic

(4) Peto R. Future health effects of current smoking pattern. Lopez AD, editor. 1994.

Oxford University press.

Ref Type: Generic

22

- (5) Lam TH, Schooling CM, Li ZB, Ho SY, Chan WM, Ho KS et al. Smoking and mortality in the oldest-old, evidence from a prospective cohort of 56,000 Hong Kong Chinese. J Am Geriatr Soc 2007; 55(12):2090-2091.
- (6) Lam TH, Li ZB, Ho SY, Chan WM, Ho KS, Tham MK et al. Smoking, quitting and mortality in an elderly cohort of 56,000 Hong Kong Chinese. Tob Control 2007; 16(3):182-189.
- (7) Burton A. Parental smoking may set up children for atherosclerosis. Environ Health Perspect 2010; 118(5):A200.
- (8) Semba RD, de Pee S, Sun K, Best CM, Sari M, Bloem MW. Paternal smoking and increased risk of infant and under-5 child mortality in Indonesia. Am J Public Health 2008; 98(10):1824-1826.
- (9) Warren C. Tobacco use among youth: a cross country comparison. 2010. BMJ. Ref Type: Generic
 - (10) Pomerleau J, Gilmore A, McKee M, Rose R, Haerpfer CW. Determinants of smoking in eight countries of the former Soviet Union: results from the living conditions, lifestyles and health study. Addiction 2004; 99(12):1577-1585.
 - (11) National survey on drug, alcohol and smoking prevalence among general population of Armenia. 2005.

Ref Type: Generic

(12) Global youth tobacco survey, 2009, Armenia. 2010. WHO.

Ref Type: Generic

(13) Rani M, Bonu S, Jha P, Nguyen SN, Jamjoum L. Tobacco use in India: prevalence and

predictors of smoking and chewing in a national cross sectional household survey. Tob

Control 2003; 12(4):e4.

(14) Rani M, Bonu S, Jha P, Nguyen SN, Jamjoum L. Tobacco use in India: prevalence and

predictors of smoking and chewing in a national cross sectional household survey. Tob

Control 2003; 12(4):e4.

(15) Mohan S, Pradeepkumar AS, Thresia CU, Thankappan KR, Poston WS, Haddock CK

et al. Tobacco use among medical professionals in Kerala, India: the need for

enhanced tobacco cessation and control efforts. Addict Behav 2006; 31(12):2313-2318.

(16) Warren C. Tobacco use among youth: a cross country comparison. 2010. BMJ.

Ref Type: Generic

(17) Kushagra Mahansaria. Evaluation of Risk Factors Associated With Initiation and

Changes

in Habits Related to Smoking Among Migrant Indian Medical

Students in Armenia. 2009.

24

Ref Type: Generic

APPENDIX A TABLES

Table 1 Student's demographic variables stratified by city of residence

VARIABLE	YEREVAN % (n)	NEW DELHI % (n)	P-value
Gender			
Boy	45.7% (205)	58.0% (7002)	<0.001
Girl	54.3% (244)	42.0% (5080)	
Smoking status*			
Regular Smoker	4.1% (18)	5.1% (602)	<0.001
Non-regular smoker	95.9% (426)	94.9% (11096)	
Age groups (in years)			
11-13	24.3% (108)	29.0% (108)	z0.001
14-15	68.5% (305)	69.1% (8350)	<0.001
16-17	7.2% (32)	1.8% (222)	

^{*}A regular smoker is defined as a student who on the average reportedly smoked at least one cigarette per day. A non-regular smoker is a person who reportedly smokes less than one cigarette per day (including non-smokers).

Table 2 Student's smoking and student's environmental and familial smoking characteristics by city of residence

VARIABLE	YEREVAN % (n)	NEW DELHI % (n)	P-value
VARIABLE	N=560	N=1286	r-value
Family smokers			
Father smoking only	63.4% (289)	28.2% (3407)	< 0.001
Mother smoking only	1.1% (5)	1.7% (210)	<0.001
Both smoking only	3.7% (17)	7.6% (913)	<0.001
No one smoking	31.4% (143)	58.9% (7113)	<0.001
Students ever tried smoking	27.0% (123)	16.0% (1929)	<0.001
Students who are regular smokers	4.1% (18)	5.1% (602)	<0.001
Dangers of smoking taught in school	31.0% (141)	51.1% (6177)	<0.001
Family member discussed harmful effects of smoking	73.2% (334)	55.9% (6754)	<0.001
Believe that tobacco selling should be banned at public places.	84.2% (384)	71.9% (8691)	<0.001

Table 3 Final multivariate logistic regression with city of residence (New Delhi vs. Yerevan) as the outcome and smoking risk factors as covariates

Variable	Odds ratio	P value
Increasing age	0.87	0.043
Male gender	2.37	<0.001
Father smoker	0.50	<0.001

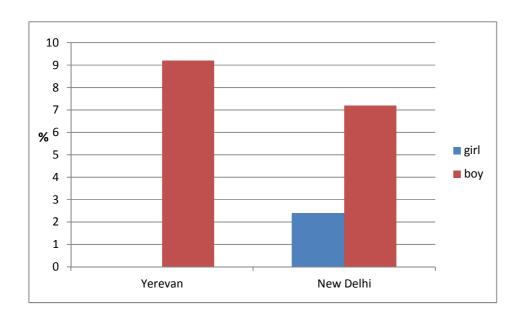
Would smoke, if best friend offers a cigarette to smoke	0.05	<0.001
Family member discussed about the harmful effects of smoking	3.56	<0.001
Many anti-smoking references seen on posters	1.90	<0.001
Many anti-smoking references encountered in news papers and magazines	4.06	<0.001

Table 4 Final multivariate logistic regression with regular smoking vs. non-regular smoking as the outcome, city of residence (New Delhi vs. Yerevan) and smoking risk factors as covariates

Variable	Odds ratio	P value
Increasing age	1.27	<0.001
Male gender	2.62	<0.001
Father smoker	1.29	0.018
Would smoke, if best friend offers a cigarette to smoke	11.01	<0.001
Family member discussed about the harmful effects of smoking	0.69	0.001
Many anti-smoking references seen on posters	0.57	<0.001
Many anti-smoking references encountered in newspapers and magazines	0.76	0.029
City (0 = Yerevan, 1= New Delhi)	7.42	<0.001

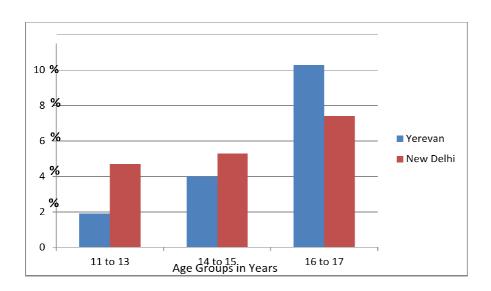
APPENDIX B GRAPHS

Graph 1(a) Regular smoking prevalence by gender and by city of residence



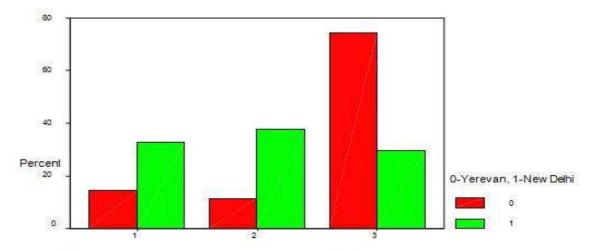
p<0.001

Graph 1(b) Regular smoking prevalence rates among student by age group and by city of residence



p<0.001

Graph 2(a) Beliefs of students about social network of smoking boys whether they have more, less or equal number of friends than non-smoking boys by city of residence

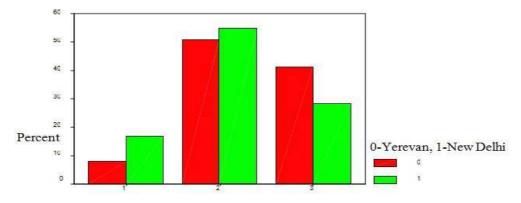


Smoking boys have more or less friend

- 1. More friend
- 2. Less friend
- 3. No difference

P value < 0.001

Graph 2(b) Beliefs of students about social network of smoking girls whether they have more, less or equal number of friends than non-smoking girls by city of residence

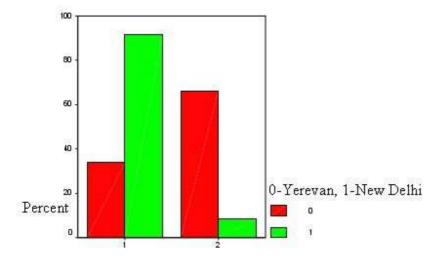


Smoking girls have more or less friend

- 1. More friend
- 2. Less friend
- 3. No difference

P value < 0.001

Graph 3 Percentage of students who reported that if their best friend offered them a cigarette they would definitely or probably smoke a cigarette or definitely or probably not smoke a cigarette

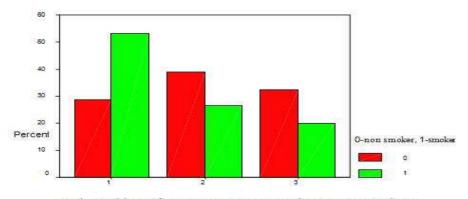


Best friend offers you a cigarette would you smoke

- 1. Definitely Not or probably Not
- 2. Definitely Yes or Probably Yes

P value < 0.001

Graph 4(a) Percentage of participants reported seeing anti-tobacco references on posters in Yerevan during the last month by smoking status

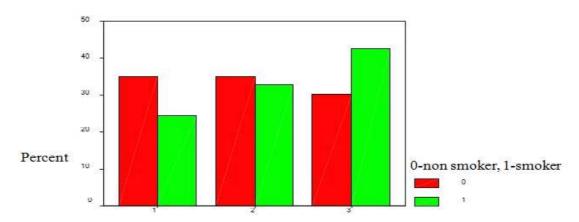


Anti-smoking references seen on posters by Yerevan students

- 1. Many
- 2. Few
- 3. none

P<0.001

Graph 4(b) Percentage of participants reported seeing anti-tobacco references on posters in New Delhi during the last month by smoking status



Anti-smoking references seen on posters by New Delhi students

- 1. Many
- 2. Few
- 3. none

P value < 0.001

APPENDIX C CODE BOOKS

C.1 New Codebook

CR1 Have you ever tried tobacco; have you ever made at least one or two inhales?

- 1 yes
- 2 no

CR2 How old were you, when tried tobacco for the first time?

	1	I have never smoked a cigarette
	2	I was 7 years old or less
	3	8 or 9
	4	10 or 11
	5	12 or 13
	6	14 or 15
	7	16 years old or above
CR3	Durin	g the last month, how many times have you used tobacco?
	1	Not a day
	2	1 or 2 days
	3	3-5 days
	4	6-9 days
	5	10-19 days
	6	20-29 days
	7	every day
CR4 smoke		g the last month, probably how many cigarettes have you used those days, when
	1	I have not smoked cigarettes during the last month
	2	less than a cigarette a day

	3	1 cigarettes a day
	4	2-5 cigarettes a pay
	5	6-10 cigarettes a pay
	6	11-20 cigarettes a pay
	7	more than 20 cigarettes a day
CR5		did you get your own cigarette during the last month (CHOOSE ONLY ONE
ANSV	WER).	
	1	I haven't smoked a cigarette during the last month
	2	I bought it from the shop or from the street trader
	3	I bought it from the vending machine
	4	I gave money to someone to buy cigarettes for me
	5	I borrowed them from another person
Ot	her.	
CR 1	0 Dur	ing the last month, when you entered a shop to buy cigarettes, did the seller
		I them because of your age?
	1	I haven't tried to buy cigarettes from a shop during the last month
	2	yes
	3	no

CR13 Have you ever smoked in the morning or felt the desire first to smoke in the morning?

- 1 I have never smoked tobacco
- 2 I don't smoke any longer
- 3 no, I have never smoked in the morning and I have not got the desire to smoke
 - 4 yes, sometimes I first smoke in the morning or feel the desire first to smoke
 - 5 yes, I have always first smoked in the morning or felt a strong desire first to smoke

INR 6 What brands of cigarettes have you usually smoked during the last month (CHOOSE ONLY ONE ANSWER)

- 1 I haven't smoked cigarettes during the last month
- 2 there is no any usual brand
- 3 Wills
- 4 Panama
- 5 Capstan
- 6 Charms
- 7 Classic
 - 8 Marlboro

9	red and	d white
10	cigaro	nne
11	garni	
12	Chibul	kh (local chipst brand without filter)
	other b	orand
CR10	Duri	ng the last month, when you entered a shop to buy cigarettes, did the seller
refuse	to sell	them because of your age?
	1	I haven't tried to buy cigarettes from a shop during the last month
	2	yes
	3	no
CR14	Do you	ur parents smoke?
	1	no one
	2	both
	3	father
	4	mother
	5	I dont know or missing

CR15	If the l	best friend of yours offers you a cigarette, will you smoke?		
	1	definitely not		
	2	probably not		
	3	probably yes		
	4	definitely yes		
CR16 smoki		ny of your family members discussed with you the harmful effects of		
	1	yes		
	2	no		
C R20.	In you	r opinion, are smoking boys have more friends, or less?		
	1	More fiends		
	2	Less friends		
	3	No difference with non-smokers		
C R21.	R21. On your opinion, are smoking girls more friends, or less?			
	1	More fiends		
	2	Less friends		

CR 22.	Does smoking cigarettes help people feel themselves more comfortable as, parties or duing other public events?	at
1	More comfortable	
2	Less comfortable	
3	No difference with non-smokers	
CR 23.In y	our opinion, does smoking cigarettes make boys more or less attractive?	
1	More attractive	
2	Less attractive	
3	No difference with non-smokers	
CR 24.In y	our opinion, does smoking cigarettes make girls more or less attractive?	
1	More attractive	
2	Less attractive	
3	No difference with non-smokers	
CR 25. loss?	Do you think that tobacco smoking contributes to your weight increase	or
1	weight increase	
2	weight loss	

No difference with non-smokers

no difference

CR 26	Do you think that tobacco smoking is harmful for your health?		
1	definitely not		
2	probably not		
3	probably yes		
4	definitely yes		
CR 34 D	Oo you think that tobacco selling in public places (restaurants, public transport,		
schools,	playing grounds, sport halls, discoteques or sport areas) should be banned?		
1	yes		
2	no		
CR 28 V	Vhen you see a smoking man what do you think about him?		
((CHOOSE ONLY ONE ANSWER)		
1	He doesn't confidence		
2	stupid		
3	loser		
4	winner/successful		

- 5 INTELIGENT
- 6 MACHO

CR 29When you see a smoking woman, what do you think about her?

(CHOOSE ONLY ONE ANSWER)

- 1 She doesn't confidence
- 2 stupid
- 3 loser
- 4 winner/SUCCESSFULL
- 5 INTELIGENT
- 6 sophisticated

CR31. Do you think that other people's smoke is harmful for your health?

- 1 definitely no
- 2 probably no
- 3 probably yes
- 4 definitely yes

CR 37 How long ago did you quit smoking?

- 1 I have never smoked
- 2 I havern't quitted smoking
- 3 less than a month or 1-3 month
- 4 4-11 months
- 5 one year
- 6 two years
- 7 three years

CR 38 What is the main reason that you have decided to quit smoking?

(CHOOSE ONLY ONE ANSWER)

- 1 I have never smoked
- 2 I haven't quitted smoking
- 3 I don't like it
- 4 to improve my health
- 5 to save money
- 6 because my family doesn't like it
- 7 becuase my friends don't like it
- 8 other reasons

CR 46How many anti-smoking references have seen on posters during			
the las	the last month?		
1	many		
2	few		
3	none		
CR 41 How 1	many anti-smoking references have encountered in newspapers and magazines		
during the la	st month?		
1	many		
2	few		
3	none		
CR 42	How often do you see anti-smoking messages, when attending sport events,		
,	s, community or public events?		
1	I never attend such events		
2	often		
3	sometimes		
4	never		
CR 43	When you watch TV-fiilms, videofilms or movies, do you often see smoking		
actors?			
1	I never watch TV-, video films or movies		
2	often		
3	sometimes		
never			

CR 50 During this school year, have you been provided with information about the danger of smoking at any of the courses?

- 1 yes
- 2 no
- 3 I am not sure ровесник

CR 54 How old are you?

- 1 11 years old or less
- 2 12 years old
- 3 13 years old
- 4 14 years old
- 5 15 years old
- 6 16 years old
- 7 17 years old or above

CR 55 Are you a boy or a girl?

- 1 boy
- 2 girl

INR 69 Your grade at school?

- 1 7th grade
- 2 8th grade
- 3 9th grade
- 4 10th grade

C.2 Codebook of GYTS 2004 for Armenia.

1.	Have	you ever tried tobacco; have you ever made at least one or two inhales?
	a yes	
	b no	
2.	How	old were you, when tried tobacco for the first time?
	a	I have never smoked a cigarette
	b	I was 7 years old or less
	c	8 or 9
	d	10 or 11
	e	12 or 13
	f	14 or 15
	g	16 years old or above
3.	Durin	ng the last month, how many times have you used tobacco?
	a	Not a day
	b	1 or 2 days
	c	3-5 days
	d	6-9 days
	e	10-19 days
	f	20-29 days
	g	every 30 day

4. During the last month, probably how many cigarettes have you used those days, when smoked?

- a I have not smoked cigarettes during the last month
- b less than a cigarette a day
- c 1 cigarettes a day
- d 2-5 cigarettes a pay
- e 6-10 cigarettes a pay
- f 11-20 cigarettes a pay
- g more than 20 cigarettes a day

5. Do you ususally manufactured or self-rolled cigarettes?

- a I have never used cigarettes
- b manufactured cigarettes
- c hand-rolled cigarettes

6. During the last month have you often smoked hand -rolled cigarettes?

- a I have never smoked hand -rolled cigarettes during the last month
- b less than once a week
- c at least less than once a week, but not every day
- d every day

7. During the last month how often have yopu smoked manufactured cigarettes I have not smoked manufactured cigarettes during the last month a Less than once a week b c at least once a week, but not every day d every day During the last 30 days, how often have you used cigars/small cigars / cigarellas? I have not smoked sigars, small cigars or cigarellas during the last a month b less than once a week at least once a week, but not every day c d every day 11. Have you ever smoked in the morning or felt the desire first to smoke in the morning? I have never smoked tobacco a I don't smoke any longer b no, I have never smoked in the morning and I have not got the desire to smoke d yes, sometimes I first smoke in the morning or feel the desire first to smoke

yes, I have always first smoked in the morning or felt a strong desire

first to smoke

12. How did you get your own cigarette during the last month (CHOOSE ONLY ONE ANSWER).

- a I haven't smoked a cigarette during the last month
- b I bought it from the shop or from the street trader
- c I bought it from the vending machine
- d I gave money to someone to buy cigarettes for me
- e I borrowed them from another person
- f I stole them
- g A man older than me gave them to me
- h I made a hand rolled cigarettes

13. What brands of cigarettes have you usually smoked during the last month (CHOOSE ONLY ONE ANSWER)

- a I haven't smoked cigarettes during the last month
- b there is no any usual brand
- c Marlboro
- d Red and White
- e Cigaronne
- f Garni
- g Chibukh (local chipst brand without filter)

	h	other brand
18	Dur	ring the last month, when you entered a shop to buy cigarettes, did the seller
	refuse	to sell them because of your age?
	a	I haven't tried to buy cigarettes from a shop during the last month
	b	yes
	c	no
19.	In gen	eral, do you think that it is easy or difficult to buy cigarettes from a shop?
	a	very difficult
	b	rather difficult
	c	very easy
	e	I usually don't buy cigarettes from a shop
20	Do you	ur parents smoke?
	a	no one
	b	both
	c	father
	d	mother

If the best friend of yours offers you a cigarette, will you smoke?

	a	definitely not
	b	probably not
	c	probably yes
	d	definitely yes
22	Has ar	ny of your family members discussed with you the harmful effects of
smoki	ng?	
	a	yes
	b	no
23	How	many of your classmates smoke?
	a	most of them
	b	at least one
	c	some of them
	d	no one
24.	In you	opinion, are smoking boys more friends, or less?
	a	More fiends
	b	Less friends
	c	No difference with non-smokers

25.

On your opinion, are smoking girls more friends, or less?

	c	No difference with non-smokers
26.	Does s	smoking cigarettes help people feel themselves more comfortable at
celeb	rations,	parties or duing other public events?
	a	More comfortable
	b	Less comfortable
	c	No difference with non-smokers
27.	In you	r opinion, does smoking cigarettes make boys more or less attractive?
	a	More attractive
	b	Less attractive
	c	No difference with non-smokers
28.	In you	r opinion, does smoking cigarettes make girls more or less attractive?
	a	More attractive
	b	Less attractive
	c	No difference with non-smokers
29.	Do yo	u think that tobacco smoking contributes to your weight increase or loss?

More fiends

Less friends

a

b

	c	no difference
30	Do yo a b	ou think that tobacco smoking is harmful for your health? definitely not probably not
	c d	probably yes definitely yes
31.	Do you	ı think that tobacco advertising should be banned?
	a b	no
32.	Do you	ı think that the price for tobacco products should be raised?
	a	yes
	b	no
33.	Do you	think that selling tobacco to the minors should be banned?
	a	yes
	b	no

weight increase

weight loss

a

b

34.	Do you think that smoking in public places (restaurants, public transport,		
school	schools, playing grounds, sport halls, discoteques or sport areas) should be banned?		
	a	yes	
	b	no	
35.	Does a	any of your closest friends smoke?	
	a	no one	
	b	several	
	c	most	
	d	all	
36.	When	you see a smoking man what do you think about him?	
	(CHOOSE ONLY ONE ANSWER)		
	a	He doesn't confidence	
	b	stupid	
	c	loser	
	d	practical	
	e	clever	
	f	has a rich life experience	

37	When you see a smoking woman, what do you think about her?		
	(CHOOSE ONLY ONE ANSWER)		
	a	She doesn't confidence	
	b	stupid	
	c	loser	
	d	practical	
	e	clever	
	f	has a rich life experience	
38. that?	Do you think that it is harmless to smoke a year or two as you will quit after ?		
	a	definitely not	
	b	probably not	
	c	probably yes	
	d	definitely yes	
		T 10 QUESTIONS ARE ABOUT THE EXPOSURE TO THE OTHER PEOPLE'S	
SMO	KE		
39.	Wh	ere do you usually smoke? (CHOOSE ONLY ONE ANSWER)	
	a	I have never smoked cigarettes	
	b	at home	

	d	at my friends' home
	e	during the lessons inside the school building
	f	during the school lessons outside the school building
	g	at public events, e.g. in the street, at a cafe, in the parks, trade centers
	h	other places
40.	Do you	a think that other people's smoke is harmful for your health?
	a	definitely no
	b	probably no
	c	probably yes
	d	definitely yes
41.	How o	ften do you see that your father (stepfather or your mother's partner)
smoke	s at ho	me?
	a	I have no such a person / I don't see that person
	b	almost every day
	c	sometimes
	d	never
42.	How o	often do you see that your mother (stepfather or your father's partner)

during piblic events

c

smokes at your home?

	a	I have no such a person/ I don't see that person
	b	almost every day
	c	sometimes
	d	never
43	How often do you see that your brother/ sister smokes at your home	
	a	I have no such a person / I don't see that person
	b	almost every day
	c	sometimes
	d	never
44.	How	often do you see that your best friend smokes at your home?
	a	I have no such a person / I don't see that person
	a b	I have no such a person / I don't see that person almost every day
	b	almost every day
	b c	almost every day sometimes
45.	b c d	almost every day sometimes
45.	b c d	almost every day sometimes never
45.	b c d	almost every day sometimes never often do you see that those people smoke at your home?

	d	never
46.	How e	vten do other people smoke in your presence at other places, except your
home?	•	
	a	almost every day
	b	sometimes
	c	never
THE N	NEXT 1	2 QUESTIONS ARE ABOUT YOUR ATTITUDE TO QUITTING SMOKING
47.	If you	smoke at present, have you thought about to quit smoking in the near
future	?	
	a	I don't smoke at present
	b	no
	c	yes
48.	Do you	think that you will smoke cigarettes during the next 12 months?
	a	definitely not
	b	probably not
	c	probably yes

	d	definitely yes
49.	In yo	our opinion will you smoke cigarettes in the next 5 years?
	a	definitely not
	b	probably not
	c	probably yes
	d	definitely yes
50.	How	difficult or easy is for you to stay away from smoking for a week?
	a	I have never smoked
	b	I do not smoke at present
	c	very difficult
	d	rather difficult
	e	rather easy
	f	very easy
51.	In yo	ou opinion, how easy or difficult it is to quit smoking together, if wish to do so
	a	I have never smoked
	b	I do not smoke at present
	c	very difficult

rather difficult

d

52	Do	you wish to o
	f	very easy
	e	rather easy

o quit at present?

- I have never smokedÉ a
- I don't smoke now b
- Yes c
- d No

53. How often have you quitted smoking during the last year?

- I havwe never smokedÉ a
- I haven't smoked during the last year b
- not at once c
- d once
- twice or more

54. How long ago did you quit smoking?

- I have never smoked a
- I havern't quitted smoking b
- less than a month c
- d 1-3 months

- e 4-11 months
- f one year
- g two years
- h three years or more

55. What is the main reason that you have decided to quit smoking?

(CHOOSE ONLY ONE ANSWER)

- a I have never smoked
- b I haven't quitted smoking
- c I don't like it
- d to improve my health
- e to save money
- f because my family doesn't like it
- g becuase my friends don't like it
- h other reasons

56. When you quitted smoking, how do you feel?

- a I have never smoked
- b I haven't quitted smoking
- c it was very difficult
- d It was rather difficult

- e it was rather easy
- f It was very easy

57. Do you think that you will be able to quit smoking, if you want?

- a I have never smoked
- b I have already quitted smoking
- c yes
- d no

58. Have you ever got assistance or recommendation to help you quitting? (CHOOSE ONLY ONE ANSWER)

- a I have never smoked
- b yes, from a program or a specialist
- c yes, Áfrom a friend
- d yes, from a family member
- e yes, from a program or a specialist and from friends or family members
- f no

THE NEXT 16 QUESTIONS ARE ABOUT YOUR KNOWLEDGE RELATED TO MASS MEDIA MESSAGES ON TOBACCO?

59.	How	How many anti smoking references have you seen by TV during the last month?	
	a	I never watch TV	
	b	many	
	c	few	
	d	none	
60	How m	any anti-smoking references have you heard by the radio during the last	
mon	th?		
	a	I never listen to the radio	
	b	many	
	c	few	
	d	none	
61 I	How ma	nny anti-smoking references have seen on advertisement	
	billb	oars during the last month?	
	a	many	
	b	few	
	c	none	
62 I	How ma	nny anti-smoking references have seen on posters during	
	the l	ast month?	
	a	many	
	b	few	
	c	none	
63.	How	many anti-smoking references have encountered in newspapers and magazines	
duri	ing the l	ast month?	
	a	many	
	b	few	
	c	none	

64.	How	many anti-smoking references have you seen at the cinema during the last
mont	th?	
	a	many
	b	few
	c	none
65.	How	often do you see anti-smoking messages, when attending sport events,
conce	erts, fa	irs, community or public events?
	a	I never attend such events
	b	often
	c	sometimes
	d	never
66.	Whe	en you watch TV-fiilms, videofilms or movies, do you often see smoking
actor	s?	
	a	I never watch TV-, video films or movies
	b	often
	c	sometimes
	d	never
67	Have	e you any thing (sport t-shirt, pen, bag etc), on which there is a symbol of a
cigar	ette br	and?
	a	yes
	b	no
68	Wh	en during the last month you were watching sport or other TV programs, how
often	did yo	ou see the names of the cigarette brands?
	a	I never watch TV
	b	often
	c	sometimes
	d	not once

69	Hov	v many tobacco advertisements have you seen in the shops (point of sale) in your
tov	vn dur	ing the last month?
	a	often
	b	sometimes
	c	not once
70.	Durin	g the last one month, how many tobacco advertisements have you seen in
news	spaper	s or magazines?
	a	often
	b	sometimes
	c	not once
71.	Who	en you go to sport events, do you often see tovacco advertising during the sport
even	its?	
	a	I never go to sport events
	b	often
	c	sometimes
	d	never
72.	When	you go to the concert, do you often see tobacco advertising during the conertcs?
	a	I never go to the concert
	b	often
	c	sometimes
	d	never
73.		en you attend community/ public gatherings, how often do you see tobacco
adve	ertisem	
	a	I never go to such events
	b	often
	c	sometimes

74	Has	a representative of any tobacco company offered you a cigarette for	ree?
	a	yes	
	b	no	
THE	NEVT	FA OLIECTIONS A DE DEL ATED TO THE ENOUGEDOE ADOLT SMO	NZING
		Γ 9 QUESTIONS ARE RELATED TO THE KNOWLEDGE ABOUT SMO U HAVE GAINED AT SCHOOL	KING
ІПА	1 100	U HAVE GAINED AT SCHOOL	
7	5 Dur	ring this school year, have you been provided with information about the d	anger
	of sn	noking at any of the courses?	
	a	yes	
	b	no	
=.	ъ.		
76.		ing this school year, have you discussed at any courses, why your classmat	es
smok	ke?		
	a	yes	
	b	no	
77.	Duri	ing this school year at any of courses have you been provided with	
	infor	rmation about such consequences of smoking as causing yellowed te	eth,
wrin	kles or	your bad smelling?	
	a	yes	
	b	no	
78.	Asa	part of a lesson, how long ago did you discusss the issue of smoking an	nd
healt		. F	
	a	never	

d

never

	c	last quarter
	d	two quarters ago
	e three quarters ago	
	f	one year ago
79.	During	g the hours, spent at school, how often do you see teachers, smoking inside
the scl	hool bu	ilding?
	a	almost every day
	b	sometimes
	c	never
80.	During	g the hours spend near school, how often do you see teachers, smoking inside
the ter	ritory	of the school, but outside its building?
	a	almost every day
	b	sometimes
	c	never
81.	During	g the hours spent at school, how often do you see students, smoking inside
the scl	hool bu	ilding
	a	almost every day

b

during this quarter

	b	sometimes
	c	never
82.		ng the hours spent near school how often do you see students, smoking outside
the so	chool b	uilding, but inside its territory?
	a	almost every day
	b	sometimes
	0	navior
	С	never
83.	Duri	ng the hours spent at school territory but not outside how often do you see other
83. peop)		ng the hours spent at school territory but not outside how often do you see other smoking?
	le,	smoking?
	le,	smoking?
	l e, a	smoking? almost every day
	le, a b	smoking? almost every day sometimes
peop	a b c	smoking? almost every day sometimes never
peop	a b c	smoking? almost every day sometimes
peop	a b c	smoking? almost every day sometimes never
peop	a b c	smoking? almost every day sometimes never
peop	a b c	smoking? almost every day sometimes never SIX QUESTIONS ARE JUST ABOUT YOU
peop	le, a b c LAST	almost every day sometimes never SIX QUESTIONS ARE JUST ABOUT YOU ow old are you?
peop	le, a b c LAST 4 Ho	almost every day sometimes never SIX QUESTIONS ARE JUST ABOUT YOU ow old are you? 11 years old or less

- d 14 years old
- e 15 years old
- f 16 years old
- g 17 years old or above

Are you a boy or a girl?

- a boy
- b girl

86. Your grade at school?

- a 6th grade
- b 7th grade
- c 8th grade
- d 9th grade

87. Do your parents work?

- a only father
- b only mother
- c both
- d no, they don't
- e they are self employed

88. Education of your father (stepfather or mother's partner)

- a secondary education
 - b specialised secondary education
 - c higher education
 - d Idont know

89. Education of your mother (stepmother or father's partner)

- a secondary education
 - b specialised secondary education
 - c higher education

d Idont know

90. What do you think, what will you do after leaving school?

- a I will continue education in the college/ institute
- b I will work
- c I don't know

C.3 Codebook of GYTS 2001 for India

Q1 CR1 Have you ever tried or experimented with cigarette smoking, even one or two puffs?

- 1 Yes
- 2 No

Q2 CR2 How old were you when you first tried a cigarette?

- 1 I have never smoked cigarettes
- 2 7 years old or younger
- 3 8 or 9 years old
- 4 10 or 11 years old
- 5 12 or 13 years old
- 6 14 or 15 years old
- 7 16 years old or older

- 1 0 days
- 2 1 or 2 days
- 3 3 to 5 days
- 4 6 to 9 days
- 5 10 to 19 days
- 6 20 to 29 days
- 7 All 30 days

Q4 CR4 During the past 30 days (one month), on the days you smoked, how many cigarettes did you usually smoke?

- 1 I did not smoke cigarettes during the past 30 days (one month)
- 2 Less than 1 cigarette per day
- 3 1 cigarette per day
- 4 2 to 5 cigarettes per day
- 5 6 to 10 cigarettes per day
- 6 11 to 20 cigarettes per day
- 7 More than 20 cigarettes per day

Q5 CR5 During the past 30 days (one month), how did you usually get your own cigarettes? (Select only one response)

- 1 I did not smoke cigarettes during the past 30 days (one month)
- 2 I bought them in a store, shop or from a street vendor
- 3 I bought them from a vending machine
- 4 I gave someone else money to buy them for me
- 5 I borrowed them from someone else
- 6 I picked it from somewhere
- 7 I got them some other way

Q6 INR6 During the past 30 days (one month), what brand of cigarettes did you usually smoke? (SELECT ONLY ONE RESPONSE)

- 1 I did not smoke cigarettes during the past 30 days
- 2 No usual brand
- 3 Wills
- 4 Panama
- 5 Capstan
- 6 Charms
- 7 Classis
- 8 Other

Q7 INR7 How much do you usually pay for a pack of 20 cigarettes?

I don't smoke cigarettes.
I don't buy cigarettes, or I don't buy them in packs.
Less than 5 rupees
Five to ten rupees
Eleven to fifteen rupees
Sixteen to twenty rupees
More than twenty rupees
During the past 30 days (one month), did anyone ever refuse to sell you
of your age?
I did not try to buy cigarettes during the past 30 days (one month)
Yes, someone refused to sell me cigarettes because of my age
No, my age did not keep me from buying cigarettes
Where do you usually smoke cigarettes? (Select only one response)
I have never smoked cigarettes
At home
At school
At work
At friends' houses

6 At social events

	7	In public spaces (e.g. parks, shops, street corners)
	8	Other
Q10	CR13	Do you ever have a cigarette or feel like having a cigarette first thing in
the mornin		Do you ever have a cigarette of feet like having a cigarette first timing in
	1	I have never smoked cigarettes
	2	I no longer smoke cigarettes
	3	No, I don't have or feel like having a cigarette first thing in the morning
	4	Yes, I sometimes have or feel like having a cigarette first thing in the
morning		
	5	Yes, I always have or feel like having a cigarette first thing in the morning
Q11	INR11	Have you ever tried or experimented with bidi smoking, even one or
two puffs?		
	1	Yes
	2	No
Q12	INR12	How old were you when you first tried a bidi?
	1	I have never smoked bidi
	2	7 years old or younger
	2	, jeans out of journey
		8 or 9 years old
	3	

- 5 12 or 13 years old
- 6 14 or 15 years old
- 7 16 years old or older

Q13 INR13 During the past 30 days (one month), on how many days did you smoke bidi?

- 1 0 days
- 2 1 or 2 days
- 3 3 to 5 days
- 4 6 to 9 days
- 5 10 to 19 days
- 6 20 to 29 days
- 7 All 30 days

Q14 INR14 During the past 30 days (one month), on the days you smoked, how many bidis did you usually smoke?

- 1 I did not smoke bidis during the past 30 days (one month)
- 2 Less than 1 bidi per day
- 3 1 bidi per day
- 4 2 to 5 bidis per day
- 5 6 to 10 bidis per day
- 6 11 to 20 bidis per day

7 More than 20 bidis per day

Q15 INR15 During the past 30 days (one month), how did you usually get your own bidis? (Select only one response)

- 1 I did not smoke bidis during the past 30 days (one month)
- 2 I bought them in a store, shop or from a street vendor
- 3 I gave someone else money to buy them for me
- 4 I borrowed them from someone else
- 5 I picked it from somewhere
- 6 I got them some other way

Q16 INR16 During the past 30 days (one month), did anyone ever refuse to sell you bidis because of your age?

- 1 I did not try to buy bidis during the past 30 days (one month)
- 2 Yes, someone refused to sell me bidis because of my age
- 3 No, my age did not keep me from buying bidis

Q17 INR17 Do you ever have a bidi or feel like having a bidi first thing in the morning?

- 1 I have never smoked bidis
- 2 I no longer smoke bidis
- 3 No, I don't have or feel like having a bidi first thing in the morning

- 4 Yes, I sometimes have or feel like having a bidi first thing in the morning
- 5 Yes, I always have or feel like having a bidi first thing in the morning

Q18 INR18 Have you ever tried or experimented with chewing or applying or snuff tobacco once or twice? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda applying tobacco such as gul, gudaku)

- 1 Yes
- 2 No

Q19 INR19 How old were you when you first tried chewing or applying or snuff tobacco? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda; applying tobacco such as gul, gudaku)

- 1 I have never used chewing or applying or snuff tobacco
- 2 7 years old or younger
- 3 8 or 9 years old
- 4 10 or 11 years old
- 5 12 or 13 years old
- 6 14 or 15 years old
- 7 16 years old or older

Q20 INR20 During the past 30 days (one month), on how many days did you use chewing or applying or snuff tobacco? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda)

- 1 0 days
- 2 1 or 2 days
- 3 3 to 5 days
- 4 6 to 9 days
- 5 10 to 19 days
- 6 20 to 29 days
- 7 All 30 days

Q21 INR21 During the past 30 days (one month), on the days you used chewing or applying or snuff tobacco how many times did you usually use? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda, applying tobacco such as gul, gudaku)

- 1 I did not smoke use chewing or applying or snuff tobacco during the past 30 days (one month)
 - 2 Once per day
 - 3 2 to 5 times per day
 - 4 6 to 10 times per day
 - 5 11 to 20 times per day
 - 6 More than 20 times per day

- Q22 INR22 During the past 30 days (one month), how did you usually get your own chewing or applying or snuff tobacco? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda, applying tobacco such as gul, gudaku)
- 1 I did not use chewing or applying or snuff tobacco during the past 30 days (one month)
 - 2 I bought them in a store, shop or from a street vendor
 - 3 I gave someone else money to buy them for me
 - 4 I borrowed them from someone else
 - 5 I picked it from somewhere
 - 6 I got them some other way
- Q23 INR23 During the past 30 days (one month), did anyone ever refuse to sell you chewing or applying or snuff tobacco because of your age? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda, applying tobacco such as gul, gudaku)
- 1 I did not try to buy chewing or applying or snuff tobacco during the past 30 days (one month)
- 2 Yes, someone refused to sell me chewing or applying or snuff tobacco because of my age
- 3 No, my age did not keep me from buying chewing or applying or snuff tobacco
- Q24 INR24 Do you ever have a chewing or applying or snuff tobacco first thing in the morning? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-

khaini/sada/surti, gutka, panmasala with zarda or pan with zarda; applying tobacco such as gul, gudaku)

1	I have never	used c	hewing of	or applying	or snuff tobacco

- 2 I no longer use chewing or applying or snuff tobacco
- 3 No, I don't have or feel like having a chewing or applying or snuff tobacco first thing in the morning
- 4 Yes, I sometimes have or feel like having a chewing or applying or snuff tobacco first thing in the morning
- 5 Yes, I always have or feel like having a chewing or applying or snuff tobacco first thing in the morning

Q25 CR14 Do your parents smoke?

- 1 None
- 2 Both
- 3 Father only
- 4 Mother only
- 5 I don't know

Q26 INR26 Do your parents use chewing or applying or snuff tobacco? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda; applying tobacco such as gul, gudaku,

- 1 None
- 2 Both

3	Father only
4	Mother only
5	I don't know
Q27 CR15 If	one of your best friends offered you a cigarette, would you smoke it?
1	Definitely not
2	Probably not
3	Probably yes
4	Definitely yes
Q28 CR16 with you?	Has anyone in your family discussed the harmful effects of smoking
1	Yes
2	No
Q29 INR29	Has anyone in your family discussed the harmful effects of chewing or
applying or snuff t	obacco with you? (This includes chewing tobacco such as tobacco leaf,
tobacco leaf and lin	me-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda;
applying tobacco s	uch as gul, gudaku)
1	
1	Yes
	Yes No

Q30 cigarette?	CR17	At any time during the next 12 months, do you think you will smoke a
	1	Definitely not
	2	Probably not
	3	Probably yes
	4	Definitely yes
Q31	CR18	Do you think you will be smoking cigarettes 5 years from now?
	1	Definitely not
	2	Probably not
	3	Probably yes
	4	Definitely yes
Q32 to quit?	CR19	Once someone has started smoking, do you think it would be difficult
	1	Definitely not
	2	Probably not
	3	Probably yes
	4	Definitely yes

	1	More friends
	2	Less friends
	3	No difference from non-smokers
Q34	CR21	Do you think girls who smoke cigarettes have more or less friends?
	1	More friends
	2	Less friends
	3	No difference from non-smokers
Q35	CR22	Does smoking cigarettes help people feel more or less comfortable at
celebrations	, partie	es, or in social gatherings?
	1	More comfortable
	2	Less comfortable
	3	No difference from non-smokers
Q36	CR23	Do you think smoking cigarettes makes boys look more or less
attractive?		
	1	More attractive
	2	Less attractive
	3	No difference from non-smokers

Do you think boys who smoke cigarettes have more or less friends?

Q33

CR20

Q37	CR24	Do you think smoking cigarettes makes girls look more or less
attractive?		
	1	More attractive
	2	Less attractive
	3	No difference from non-smokers
Q38	CR25	Do you think that smoking cigarettes makes you gain or lose weight?
	1	Gain weight
	2	Lose weight
	3	No difference
Q39	CR26	Do you think cigarette smoking is harmful to your health?
	1	Definitely not
	2	Probably not
	3	Probably yes
	4	Definitely yes
Q40 to your heal	INR40	Do you think cigarette chewing, applying, or snuff tobacco is harmful
	1	Definitely not

	2	Probably not
	3	Probably yes
	4	Definitely yes
Q41	CR27	Do any of your closest friends smoke cigarettes?
	1	None of them
	2	Some of them
	3	Most of them
	4	All of them
Q42	CR28	When you see a man smoking, what do you think of him? (Select only
one respon	ise)	
	1	Lacks confidence
	2	Stupid
	3	Loser
	4	Successful
	5	Intelligent
	6	Macho
Q43	CR29	When you see a woman smoking, what do you think of her? (Select
only one re		9
, -,		
	1	Lacks confidence

	2	Stupid
	3	Loser
	4	Successful
	5	Intelligent
	6	Sophisticated
Q44	CR31	Do you think the smoke from other people's cigarettes is harmful to
you?		
	1	Definitely not
	2	Probably not
	3	Probably yes
	4	Definitely yes
Q45	CR32	During the past 7 days, on how many days have people smoked in your
home, in y	our pres	ence?
	1	0
	2	1 to 2
	3	3 to 4
	4	5 to 6
	5	7

Q46	CR33	During the past 7 days, on how many days have people smoked in your
presence,	in places	other than in your home?
	1	0
	2	1 to 2
	3	3 to 4
	4	5 to 6
	5	7
Q47	CR34	Are you in favor of banning smoking in public places (such as in
restaurant	ts, in bus	es, streetcars, and trains, in schools, on playgrounds, in gyms and sports
arenas, in	discos)?	
	1	Yes
	2	No
Q48	CR35	Do you want to stop smoking now?
	1	I have never smoked
	2	I do not smoke now
	3	Yes
	4	No
Q49	INR49	During the past year, have you ever tried to stop smoking?
£.,		
	1	I have never smoked cigarettes

	2	I did not smoke during the past year
	3	Yes
	4	No
Q50	CR37	How long ago did you stop smoking?
	1	I have never smoked
	2	I have not stopped smoking
	3	Less than 4 months
	4	4-11 months
	5	One year
	6	2 years
	7	3 years or longer
Q51	CR38	What was the main reason you decided to stop smoking? (Select one
only)		
	1	I have never smoked cigarettes
	2	I have not stopped smoking
	3	To improve my health
	4	To save money
	5	Because my family does not like it
	6	Because my friends don't like it

7 Other

Q52	CR40	Have you ever received help or advice to help you stop smoking?
(Select onl	v one resp	oonse)

- 1 I have never smoked cigarettes
- 2 Yes, from a program or professional
- 3 Yes, from a friend
- 4 Yes, from a family member
- 5 Yes, from both programs or professionals and from friends or family members
- 6 No

Q53 INR53 Do you want to stop chewing/applying/snuff tobacco now? (This includes chewing tobacco such as tobacco leaf, tobacco leaf and lime-khaini/sada/surti, gutka, panmasala with zarda or pan with zarda; applying tobacco such as gul, gudaku)

- 1 I have never chewed/applied/used snuff tobacco
- 2 I do not chew/apply/use snuff tobacco now
- 3 Yes
- 4 No

Q54 CR41 During the past 30 days (one month), how many anti-smoking media messages (e.g. television, radio, billboards, posters, newspapers, magazines, movies, drama) have you seen?

1 A lot

	2	A few
	3	None
055	CD 43	William was an Angerranda aranda faina aanaanta aanaanida aranda ar
Q55 social gathe	CR42 erings, l	When you go to sports events, fairs, concerts, community events, or now often do you see anti-smoking messages?
social garan		ion often do you see and smoring messages.
	1	I never go to sports events, fairs, concerts, community events, or social
gatherings		
	2	A lot
	3	Sometimes
	4	Never
056	CP/13	When you watch TV videos or movies how often do you see actors
Q56 smoking?	CR43	When you watch TV, videos, or movies, how often do you see actors
Q56 smoking?	CR43	When you watch TV, videos, or movies, how often do you see actors
_		When you watch TV, videos, or movies, how often do you see actors I never watch TV, videos, or movies
_	1	
_	1 2	I never watch TV, videos, or movies
_	1 2 3	I never watch TV, videos, or movies A lot
_	1 2 3	I never watch TV, videos, or movies A lot Sometimes
_	1 2 3	I never watch TV, videos, or movies A lot Sometimes
smoking? Q57	1 2 3 4 CR46	I never watch TV, videos, or movies A lot Sometimes Never
smoking? Q57	1 2 3 4 CR46	I never watch TV, videos, or movies A lot Sometimes Never During the past 30 days (one month), how many advertisements for
smoking? Q57	1 2 3 4 CR46 nave you	I never watch TV, videos, or movies A lot Sometimes Never During the past 30 days (one month), how many advertisements for a seen on billboards (at the point of sale or elsewhere)?

_		
'2	Non	`
	None	

Q58	INR58	During the past 30 days (one month), how many advertisements for
bidi have y	you seen	on billboards (at the point of sale or elsewhere)?
	1	A lot
	2	A few
	3	None
Q59	INR59	During the past 30 days (one month), how many advertisements for
gutka have	e you see	n on billboards (at the point of sale or elsewhere)?
	1	A lot
	2	A few
	3	None
Q60	CR49	Has a cigarette representative ever offered you a free cigarette?
	1	Yes
	2	No
Q61	INR61	Has a bidi representative ever offered you a free bidi?
	1	Yes
	2	No

Q62 masala?	INR62	Has a pan masala representative ever offered you a free gutka or pan
	1	Yes
	2	No
Q63	CR50	During this school year, were you taught in any of your classes about
the dangers	of smo	king?
	1	Yes
	2	No
	3	Not Sure
Q64	CR51	During this school year, did you discuss in any of your classes the
reasons why	y people	e your age smoke?
	1	Yes
	2	No
	3	Not Sure
Q65	CR52	During this school year, were you taught in any of your classes about
the effects of	of smok	ing, like it makes your teeth yellow, causes wrinkles, or makes you smell
bad?		
	1	Yes
	2	No

Q66 CR53 How long ago did you last discuss smoking and health as part of a lesson?

- 1 Never
- 2 This term
- 3 Last Term
- 4 2 terms ago
- 5 3 terms ago
- 6 More than a year ago

Q67 CR54 How old are you?

- 1 11 years old or younger
- 2 12 years old
- 3 13 years old
- 4 14 years old
- 5 15 years old
- 6 16 years old

7 17 years old or older

Q68 CR55 What is your sex?

- 1 Male
- 2 Female

Q69 INR69 In what grade/form are you?

- 1 Eight
- 2 Nine
- 3 Ten