

LINKING GLOBAL YOUTH TOBACCO SURVEY (GYTS) DATA TO TOBACCO CONTROL POLICY IN TURKEY – 2003 AND 2009

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SUMMARY

Objective: The purpose of this paper is to use data from the Global Youth Tobacco Survey (GYTS) conducted in Turkey in 2003 and 2009 to examine changes in tobacco use and important tobacco control measures.

Methods: The GYTS were conducted in grades 7–9 in 2003 and 7–10 in 2009 in Turkey. Data in this paper are limited to 13 to 15 year old students. A total of 15,957 students from 202 schools participated in 2003 and 5,054 students from 69 schools participated in 2009. The overall response rate was 92.1% in 2003 and 87.5% in 2009.

Results: Between 2003 and 2009 current cigarette smoking did not change significantly for either boys (9.4% to 10.2%) or girls (3.5% to 5.3%). Current cigarette smoking was higher among boys than girls in 2003 and in 2009. In 2009, half of students reported they had been exposed to second hand smoking (SHS) at home and 80% reported they had been exposed to SHS in public places. Three in ten students reported they had been exposed to pro-tobacco advertising in newspapers or magazines; one in ten had an object with a cigarette brand logo on it; and 7% had been offered free cigarettes by a cigarette company representative. Two-thirds of current cigarette smokers reported that they wanted to stop smoking; and almost two-thirds had been taught in school in the past year about the dangers of smoking.

Conclusion: Passing and implementing the Law No. 4207 on Prevention of Hazards of Tobacco Products, ratifying the World Health Organization Framework Convention on Tobacco Control (WHO FCTC), raising tax on tobacco, and requiring pictorial warning labels were important steps forward for tobacco control in Turkey. However, as to the tobacco control much work yet to be accomplished including developing an effective enforcement plan for all tobacco control efforts.

Key words: GYTS, tobacco control, national policy, plan of action, school survey

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INTRODUCTION

In 2004, the Government of Turkey made tobacco control a public health priority by ratifying the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) (1). The WHO FCTC is the world's first public health treaty on tobacco control. The WHO FCTC encourages countries to develop and implement action plans to include public policies, such as bans on direct and indirect tobacco advertising, tobacco tax and price increases, promoting smoke-free public places and workplaces, and placing health warning labels on tobacco packaging.

Adolescence is a vulnerable period for starting to smoke, thus adolescents are a major target group for the tobacco industry. A number of studies have been dealing with smoking behaviour among adolescents in Turkey. Mostly these have been carried out in schools, among students attending the 7th (13–15 years) and 10th (15–19 years) grade classes. Smoking prevalence was found to be 0.9–9.1% in students of grade 7 and 15.9–41.2% in

students of grade 10 (2). The wide variation in smoking rates, particularly among high school students, could be at least partially explained by differences in data collection practices and/or the definitions/indices used. Nevertheless, smoking is quite common among adolescents and the peer effect on starting to smoke is of crucial importance in this age group. Various small-scale cross-sectional studies conducted among youngsters of different ages and regions have indicated that the smoking prevalence rates among those who had ever smoked ranged from 0.7% to 21.1% among girls and from 1.1% to 52.4% among boys attending 7th and 10th grade classes.

The WHO FCTC also calls on countries to establish tobacco surveillance systems. WHO, the U.S. Centers for Disease Control and Prevention (CDC), and the Canadian Public Health Association (CPHA) developed the Global Tobacco Surveillance System (GTSS) to assist WHO Member States in establishing tobacco control surveillance and monitoring systems (3). The GTSS provides a flexible system that includes common data items, a

consistent survey methodology, field procedures for data collection, and data management and processing techniques. The GTSS includes data collection through four surveys: the Global Youth Tobacco Survey (GYTS), the Global School Personnel Survey (GSPS), the Global Health Professions Student Survey (GHPSS), and the Global Adult Tobacco Survey (GATS).

The purpose of this paper is to use data from the GYTS conducted in Turkey in 2003 and 2009 to examine changes in tobacco use and important tobacco control measures. Monitoring the changes will assist in evaluating progress toward attaining the goals of the WHO FCTC.

METHODS AND ANALYSIS

The GYTS is a school-based survey that uses a two-stage cluster sample design to produce representative samples of students aged 13–15 years. The Turkey GYTS sampling frame included all schools with students in grades 7, 8, and 9 in 2003 and grades 7, 8, 9, and 10 in 2009. At the first stage, the probability of school being selected is in proportion to the number of students enrolled in the specified grades. At the second stage, classes within the selected schools are randomly selected.

The GYTS sample design produces representative, independent, cross-sectional estimates for each site. Data in this paper are limited to students aged 13–15 years. Incomplete data were excluded from the analysis.

In 2003, the school response rate was 100%, the classroom response rate was 100%, the student response rate was 92.1%, and the overall response rate was 92.1%. A total of 11,441 students aged 13–15 years in grades 7–9 participated in the 2003 GYTS. In 2009, the school response rate was 98.6%, the classroom response rate was 100%, the student response rate was 88.8%, and the overall response rate was 87.5%. A total of 3,317 students aged 13–15 years in grades 7–10 completed the 2009 GYTS.

SUDAAN, a software package for statistical analysis of correlated data, was used to compute standard errors of the estimates

and produced 95% confidence intervals which are shown as lower and upper bounds (4). T-tests were used to determine differences between subpopulations (5). For prevalence of tobacco use by sex and factors influencing tobacco use, the percent change was calculated and differences between estimates were considered statistically significant if the t-test p-value was <0.05.

Questionnaire

The Turkey GYTS 2003 and 2009 questionnaires contained core questions covering topics on tobacco use^a, knowledge, and attitudes regarding tobacco, second-hand smoke exposure, pro and anti-tobacco media and advertising exposure, desire for smoking cessation, access and availability to obtain tobacco, school curricula addressing tobacco use and its health effects, and demographics. The final Turkey questionnaire was translated into Turkish and back-translated into English and piloted in a group of students aged 13–15 years to confirm the accuracy of the translation and students' understanding of the questions.

RESULTS

Prevalence

Between 2003 and 2009, the percent of students who had ever smoked cigarettes increased for girls (19.7% to 25.4%), but remained unchanged for boys (Table 1). Boys were more likely than girls to have ever smoked cigarettes in 2003 and in 2009. Current cigarette smoking did not change significantly between 2003 and 2009 for either boys (9.4% to 10.2%) or girls (3.5% to 5.3%). Current cigarette smoking was higher among boys than girls in 2003, and in 2009. Between 2003 and 2009, the likely initiation of cigarette smoking (susceptibility) by never smokers significantly increased for girls (5.3% to 9.8%) but did not change for boys. In 2003 susceptibility to initiate cigarette smoking was higher for boys than girls; however, in 2009 there was no gender difference.

Table 1. Prevalence of tobacco use by sex, Turkey, Global Youth Tobacco Survey, 2003 and 2009

Prevalence	Ever smoked cigarettes				Current cigarette smoker				Never smokers likely to initiate smoking in the next year			
	Total % (95% CI) ^a	Boys % (95% CI)	Girls % (95% CI)	Boy-Girl p-value	Total % (95% CI)	Boys % (95% CI)	Girls % (95% CI)	Boy-Girl p-value	Total % (95% CI)	Boys % (95% CI)	Girls % (95% CI)	Boy-Girl p-value
2003	26.3 (24.3–28.4)	31.7 (29.0–34.5)	19.7 (17.6–22.0)	0.0001	6.9 (6.1–7.9)	9.4 (8.2–10.9)	3.5 (2.9–4.3)	0.0001	7.0 (6.5–7.5)	8.2 (7.3–9.2)	5.3 (4.6–6.1)	0.0001
2009	29.6 (25.5–34.1)	32.3 (26.5–38.6)	25.4 (22.0–29.1)	0.0143	8.4 (5.9–11.8)	10.2 (6.9–14.6)	5.3 (3.5–7.9)	0.0017	10.2 (8.7–11.8)	10.6 (8.3–13.4)	9.8 (8.0–12.1)	0.6490
Percent Change 2003–2009	13%	2%	29%	–	22%	9%	51%	–	46%	29%	85%	–
p-value	0.1660	0.8609	0.0068	–	0.3321	0.7185	0.1301	–	0.0001	0.0820	0.0001	–

* Confidence interval.

^a Ever cigarette smoking was checked up in those who answered yes to the question: “Have you ever tried or experimented with cigarette smoking, even one or two puffs?” Current cigarette smoking was checked up in those who confirmed one or more days during the past 30 days (one month).

Although this study does not provide data on the prevalence of water-pipe (narghile) use, observations imply its increasing use among adolescents and young adults in particular. More importantly, most water-pipe users are not aware of health hazards associated with this habit. A study carried out in Ankara in 2004 on 273 individuals aged 14–44 years (55% aged 18–24 years) showed that among water-pipe users 27.1% had no clear idea of the health hazards; 18.3% thought the pipes did no harm to their health; while 27.9% reported that they did not smoke cigarettes, but only a water-pipe. This suggests that the water-pipe is a new tobacco product threatening public health, and its health hazards should be given greater emphasis in national tobacco control activities (6).

Factors Influencing Tobacco Use

Exposure to Second-hand Smoke (SHS)

In 2009, 48.6% of students reported they had been exposed to SHS at home and 79.9% reported they had been exposed to SHS in public places in the past 7 days (Table 2). In both 2003 and 2009, almost 9 in 10 students reported they were in favour to ban smoking in public places. The percentage of students who reported that all or most of their best friends smoked, significantly increased between 2003 and 2009 (5.4% to 9.0%). However, parental smoking significantly decreased (59.8% to 51.8%) during the same time period.

Media and Advertising

Between 2003 and 2009, the percentage of students that reported having seen an anti-smoking media message in the past month significantly decreased (98.0% to 87.8%) (Table 2).

In 2003 and 2009, approximately 3 in 10 students reported they were exposed to pro-tobacco advertising in newspapers or magazines; 1 in 10 reported having an object with a cigarette brand logo on it (i.e., t-shirt, pen, backpack, etc.); and more than 7% reported having been offered free cigarettes by a cigarette company representative.

Smoking Cessation

Approximately two-thirds of current cigarette smokers reported that they wanted to stop smoking in both 2003 and 2009 (Table 2). The percentage of current smokers who always feel like having a cigarette is the first thing in the morning did not change significantly between 2003 and 2009 (13.1% to 18.3%).

School

Between 2003 and 2009, the percentage of students that reported the school informed them about the dangers of smoking significantly increased (52.8% to 62.2%) (Table 2).

DISCUSSION

Tobacco use is the world's leading cause of premature death causing more than 5 million deaths every year (7). In Turkey, more than 100,000 people die each year due to smoking, an annual number estimated to increase to 240,000 deaths by 2030. To effectively respond to the crises, the Ministry of Health has undertaken a series of policy measures aimed to protect the people of Turkey from unnecessary disease and deaths caused by tobacco use. In 2007, the National Tobacco Control Committee,

Table 2. Prevalence of factors influencing tobacco use, Turkey, Global Youth Tobacco Survey, 2003 and 2009

Factors	2003	2009	% Change 2003–2009	p-value
	% (95% CI)*	% (95% CI)		
Exposure to secondhand smoke, favour ban of smoking				
Exposure to smoke at home in the past 7 days	NA	48.6 (44.2–52.9)	–	–
Exposure to smoke in public places in the past 7 days	NA	79.9 (78.3–81.4)	–	–
In favour of banning smoking in public places	91.4 (90.6–92.1)	88.7 (85.2–91.4)	–3%	0.0921
All or most best friends smoke	5.4 (4.8–6.2)	9.0 (6.9–11.6)	67%	0.0035
One or more parents smoke	59.8 (58.6–61.0)	51.8 (46.2–57.3)	–13%	0.0051
Media/advertising				
During the past month saw any anti-smoking media messages	98.0 (97.7–98.2)	87.8 (86.0–89.3)	–10%	0.0001
During the past month saw any advertisements or promotions for cigarettes in newspapers or magazines	27.9 (26.8–29.1)	29.2 (26.5–32.0)	5%	0.4030
Have an object (t-shirt, pen, backpack, etc.) with a cigarette brand logo on it	10.1 (9.3–11.0)	11.6 (9.4–14.3)	15%	0.2429
Ever offered a “free” cigarette by a cigarette company representative	7.6 (7.0–8.2)	7.4 (6.1–8.8)	–3%	0.7518
Cessation				
Current smokers who want to stop smoking now	65.3 (60.4–69.9)	67.7 (54.4–78.7)	4%	0.7078
Current smokers who always feel having a cigarette first thing in the morning	13.1 (9.6–17.6)	18.3 (9.7–31.8)	40%	0.3671
School				
During this school year were taught in any classes about the dangers of smoking	52.8 (50.9–54.7)	62.2 (57.3–66.8)	18%	0.0003

* Confidence interval.
NA – Data not available

prepared and launched the National Tobacco Control Programme and Action Plan (2008–2012) (8). In 2008, Law No. 4207 (first passed in 1996) was amended to protect individuals and future generations from the hazards of tobacco products, to ban any advertising, promotion, or sponsorship promoting the use of tobacco products, and to ensure that everybody enjoys clean air (9). In addition, Law No. 4207 mandates the Ministry of Health to increase accessibility of treatment for tobacco dependence. In January 2010, the Special Consumption Tax on Tobacco was increased by 20%, raising the total tax on tobacco products to 78%, slightly above the WHO recommendation. Turkey adapted pictorial health warnings (65 % of one side) on cigarette packs on 1 May 2010. Law No. 5727 requires 90 minute of free airtime for tobacco control on every radio and television channel including 30 minutes in prime time (10).

WHO identified six effective tobacco control policies which countries can use to assist in developing their tobacco control programmes (11). The WHO FCTC includes specific articles related to each of the interventions mentioned in the report (1). The following section reviews the tobacco control programme efforts in Turkey relative to the findings from the GYTS.

Second Hand Smoke

Article 8 of the WHO FCTC addresses the issue of “Protection from exposure to tobacco smoke.” (1). The Article states:

Parties recognize that scientific evidence has unequivocally established that exposure to tobacco smoke causes death, disease and disability. Each Party shall adopt and implement... measures, providing for protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places and, as appropriate, other public places.

The first anti-tobacco law (Law No. 4207) in Turkey came into force in January 1996 (9). Law No. 4207 included ban on selling tobacco to people under the age of 18; ban on all kinds of tobacco promotion and advertisements, such as TV, newspaper advertising, movies, billboards, etc.; importation of vending machines into the country; inclusion of warning labels on cigarette packages saying “cigarette is dangerous to your health”; public education against smoking via television required by law; and ban on smoking in public transportation. Law No. 4207 was amended in 2008 to include protection from exposure to SHS in the following places: indoor public workplaces; indoor education, health, marketing, social, cultural, sport, and entertainment sector buildings; public transport, including commercial taxis; indoor and outdoor public and private education buildings; and restaurants, bars, cafes, and traditional coffee houses.

In Turkey, the amendments to Law No. 4207 entered into force in January 2008 in two phases. The first phase started in May 2008, banning smoking in bars, restaurants, cafes, and traditional coffee houses. Since July 2009, Turkey has been totally smoke-free in public places including previous exceptions. With this legislation, Turkey became the 6th country in the world to have 100% smoke-free enclosed workplaces and public places (Bermuda, Ireland, New Zealand, Turkey, the United Kingdom, and Uruguay).

GYTS data in 2009 shows 80% of students reported exposure to SHS in public places. The 2009 GYTS was conducted prior to implementation of the SHS provisions in Law No. 4207 (July 2009). Therefore, findings in the GYTS are not surprising, but we

can expect a significant decrease in the level of exposure when the GYTS is repeated (scheduled for 2012).

Tobacco Advertising, Promotion and Sponsorship

Article 13 of the WHO FCTC addresses the issue of “Tobacco advertising, promotion and sponsorship” (1). The Article states:

Parties recognize that a comprehensive ban on advertising, promotion and sponsorship would reduce the consumption of tobacco products. Each Party shall... undertake a comprehensive ban of all tobacco advertising, promotion and sponsorship. This shall include... a comprehensive ban on cross-border advertising, promotion and sponsorship originating from its territory.

Turkish Law No. 4207 prohibits mass media advertising and promotion of cigarettes and other tobacco products, and in 2008 the law was amended to ban sponsorship of all sports and cultural events by tobacco companies (9).

Results from GYTS point to two issues regarding exposure to pro-tobacco advertising. First, 29% of students reported having seen advertisements or promotions for cigarettes in newspapers or magazines in the past month. The Ministry of Health needs to conduct studies to see if the newspapers and magazines are international and thus, not subject to the provisions of Law No. 4207. Second, indirect advertising (i.e., logos on objects and free cigarette give-away) appear not to be included in Law No. 4207. New amendments to Law No. 4207 could close both these gaps.

Smoking Cessation

Article 14 of the WHO FCTC addresses the issue of “Demand reduction measures concerning tobacco dependence and cessation.” (1) The Article states:

Each Party shall endeavour to design and implement effective programmes aimed at promoting the cessation of tobacco use, in such locations as educational institutions, health care facilities, workplaces, and sporting environments.

The WHO Report states, “Countries must establish programmes providing low-cost, effective treatment for tobacco users who want to escape their addiction.” (11). Results from the GYTS in Turkey indicate that there is a need for programmes addressing youth smoking cessation as two-thirds of the current smokers in 2009 reported they wanted to stop smoking. The problem facing Turkey and other countries is summarized in the report: “Youth Tobacco Cessation: A Guide for Making Informed Decisions, ... a literature review of 66 published studies on youth tobacco-use cessation and reduction... concluded that most of the studies lacked the quality and consistency of findings to allow conclusive recommendations about effective practices...” (12). More research is needed to evaluate and identify effective youth tobacco cessation programmes.

School

Article 12 of the WHO FCTC addresses the issue of “Education, communication, training, and public awareness.” (1). The Article states:

Each Party shall promote and strengthen public awareness of tobacco control issues, using all available communication tools, as appropriate... each Party shall... promote broad access to effective and comprehensive educational and public awareness programmes on the health risks including the addictive characteristics of tobacco consumption and exposure to tobacco smoke.

In 2009, results of the GYTS show that 62.2% of the students reported that they had been taught in classes the past school year about the dangers of tobacco. Studies of the effectiveness of stand-alone school-based smoking prevention programmes have been mixed. Studies have found some programmes results in short-term decreases; but other studies have looked at long-term programme results and found no effective programme (13). WHO recognizes school and community tobacco control programme efforts are important but they are most likely to be successful after a favourable policy environment has been created, including tax and price policies, 100% smoke-free public places and indoor workplaces, and a comprehensive ban on all tobacco advertising, promotion, and sponsorship (11).

The findings in this report are subject to at least 3 limitations. First, because GYTS is limited to students, it may not be representative of all adolescents aged 13–15 years in grades 7–10 (the grades attended mostly by students aged 13–15 years) although the education system in Turkey is divided into primary school (grades 1–8) and high school (grades 9–12). Second, these data apply only to youths who were in school on the day of the survey and who completed the questionnaire. Student response rates were high, suggesting that bias attributable to absence or non-response is limited. Third, data are based on the self-report of students who might under-report or over-report their behaviours or attitudes. The extent of this bias cannot be determined from these data. However, reliability studies in the United States have shown good test-retest results for similar tobacco-related questions (14).

CONCLUSION

The Ministry of Health in Turkey must continue to strengthen the existing tobacco control policies as well as enact new policies designed to reduce tobacco use among Turkish citizens. In addition, Turkey must maintain an effective tobacco control surveillance system, including periodic implementation of surveys such as GYTS. From these repeated surveys data can be used to monitor and evaluate components of the tobacco control programme. We can expect to see changes in the next GYTS (scheduled for 2012) due to the recent policy changes. Turkey has made great strides in

tobacco control since ratifying the WHO FCTC in 2004. Now is the time to fully implement and enforce all existing provisions of Law No. 4207 to fill the gaps in the law, and to introduce amendments to further strengthen the overall tobacco control effort.

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