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**A long way to go: 20-year trends from multiple surveillance systems show that use of tobacco in minors is still huge in Italy**

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## **Abstract (250 words)**

**Introduction:** Main aim was to describe youth smoking prevalence in Italy over the last two decades, and to provide recent trends in knowledge, attitudes towards smoking, awareness of anti-tobacco mass media campaigns, second-hand smoke [SHS] exposure, and access to cigarettes.

**Methods:** Figures from three surveillance systems, with 13 representative cross-sectional surveys (about 43,000 participants): European School Survey Project on Alcohol and Other Drugs (ESPAD), 15-16-year-old students, 1995-2015; Health Behaviour in School-aged Children (HBSC), 11-13-15-year-old students, 2002-2014; Global Youth Tobacco Survey (GYTS), 13 to 15-year-old students, 2010, 2014.

**Results:** Smokers non-significantly decreased by 30%-50% in 11-, and 13-year-old students. Among 15-16-year-old adolescents, ever smokers significantly decreased by 10%, whereas current and daily smokers have been stalling or even increased, particularly among girls. Appeal of smoking increased, perception of SHS as harmful, and awareness of recent anti-tobacco mass media campaigns decreased. Moreover, a significant 30% reduction in reporting that retailers did not refuse to sell cigarettes to adolescents because of their age, a non-significant decrease in reporting to buy cigarettes from stores or vending machines, and a non-significant increase in getting cigarettes from other people were reported.

**Conclusions:** Policies enforced in Italy over the last 20 years slightly reduced ever smokers, but did not satisfactorily decrease current and daily smokers in 15-16-year-old adolescents. Stricter rules on youth tobacco access reduced ease of access to cigarettes, but did not affect adolescents' tobacco use. Stronger tobacco control measures are urgently needed in order to determine a steeper decline in smoking prevalence in adolescents.

## **Introduction**

Tobacco use is the world's leading cause of preventable morbidity and mortality, resulting in nearly 6 million deaths each year. [1] Most smokers begin smoking during adolescence; therefore preventing tobacco use among young people is an integral part of ending the tobacco epidemic. [2] The World Health Organization (WHO) recommended to monitor tobacco use in order to fully implement the WHO-Framework Convention on Tobacco Control (FCTC). [3,4] Monitoring tobacco use and prevention policies was the focus of the 2017 WHO report on the global tobacco epidemic. [3] The need to track progress in tobacco control is greater than ever now that the Sustainable Development Goals have been agreed, and, among them, the Target 3.a, which requires the strengthening of WHO-FCTC implementation in all Countries. [5]

Adolescents are quite sensitive to tobacco control policies. For example, there is consistent evidence of a significant negative effect of cigarette taxes on smoking prevalence in young people. In fact, tobacco use among young people is more responsive to changes in prices/taxes compared to adults, due to youth's lower disposable income and their lower level of addiction thanks to shorter smoking history. [6] Moreover, there is sufficient evidence that within the context of comprehensive tobacco control programmes, mass-media campaigns reduce youth smoking, promote adult quitting, and reduce adult smoking prevalence. [2,7] As an example, the "truth" campaign, carried out in the USA in 2000-2002 accounted for about 22% of the decline in youth smoking prevalence recorded in the period 1999-2002, from 25% to 18%. [8] Furthermore, the introduction of plain package in Australia in 2012, determined a decrease in all key indicators of youth smoking prevalence: students aged 12-17 years who declared to be ever smokers decreased from 23% in 2011 to 19% in 2014, whereas current smokers in the past month recorded a decrease from 8.9% in 2011 to 7.5% in 2014, and current smokers in past seven days a decrease from 6.7% in 2011 to 5.1% in 2014. [9]

Main aim of this paper is to gather all available smoking-related data from the main national surveillance systems on adolescents conducted in Italy, in order to describe smoking prevalence

trends among adolescents over the last 20 years in relation to tobacco control policies introduced in Italy in the same period, and to provide recent figures regarding knowledge and attitudes towards cigarette smoking, awareness of recent anti-tobacco mass media campaigns, second-hand smoke (SHS) exposure, and access to cigarettes among Italian teenagers.

## **Material and Methods**

In Italy, three different surveillance systems have been conducting surveys every 4 years on representative samples of Italian adolescents in order to monitor tobacco use among youths and to guide the implementation and evaluation of tobacco prevention and control programmes: the European School Survey Project on Alcohol and Other Drugs (ESPAD); the Health Behaviour in School-aged Children (HBSC), and the Global Youth Tobacco Survey (GYTS). Protocols and main results of ESPAD, HBSC, and GYTS are described elsewhere [10-16]. These systems use comparable sampling frames and a similar school-based approach in administering paper-and-pencil questionnaires to students.

Briefly, the European School Survey Project on Alcohol and Other Drugs (ESPAD) was developed to collect comparable data on substance use among 15–16 year old students in Europe. [10,11] The surveys were repeated every four years, with 1995 as the starting point. The ESPAD target population is defined as regular students who turn 16 in the calendar year of the survey and are present in the classroom on the day of the survey. In each participating country, a cluster sampling design was used to sample the target population. In Italy, data were collected by self-administered questionnaires, using a paper-and-pencil questionnaire. The students answered the questionnaires anonymously in the classroom. Italian samples were nationally representative. For this paper, ESPAD items on smoking behaviours were used (Table 1; Table 2B).

Health Behaviour in School-aged Children (HBSC) is a WHO collaborative cross-national study conducted in Europe and North America in 9 rounds since 1982; HBSC provided information about the health, well-being, social environment and health behaviour of 11-, 13- and 15-year-old boys

and girls. [12-14] In Italy, HBSC surveys were conducted since 2002 (the last four rounds). The data focus on risk behaviours (use of tobacco, alcohol and cannabis, sexual behaviour, fighting and bullying), social context (relations with family, peers and school), health outcomes (subjective health, injuries, obesity and mental health), and health behaviours (patterns of eating, tooth brushing and physical activity). Data were collected in all participating countries through school-based surveys using a standard methodology described elsewhere. [17] Briefly, each country or region uses random sampling to select a proportion of young people aged 11, 13 and 15 years, ensuring that the sample is representative of all in the age range. Around 1,500 students in each HBSC country or region were selected from each age group. For this paper, HBSC items on smoking behaviours were used (Table 1; Table 2A).

Global Youth Tobacco Survey (GYTS) is a nationally representative school-based, paper and pencil, cross-sectional survey of students in school grades associated with ages 13–15 years. GYTS has been carrying out in 61 countries worldwide, and used a standard methodology for constructing the sampling frame, selecting schools and classes, preparing questionnaires, following consistent field procedures, and using consistent data management procedures for data processing and analysis. [15,16] GYTS collects data on the following seven domains: (1) prevalence of tobacco use among young people; (2) knowledge and attitudes towards cigarette smoking; (3) role of the media and advertising in young people's use of cigarettes; (4) second -hand smoke (SHS) exposure at home, at school, and in other settings; (5) access to tobacco products; (6) tobacco-related school curriculum; (7) cessation of cigarette smoking. In Italy GYTS was carried out in 2010 and 2014. For this paper, 25 items were selected in order to describe recent trends in the 7 domains (Table 2A; Table 3).

## **Results**

*Students aged 11 years (HBSC):* non-daily smokers (less-than weekly smokers, and weekly-but-not-daily smokers) non-significantly decreased by about 50%, from 1.3%-1.7% in 2002 to 0.6%-0.9%

in 2014, whereas daily smokers were very few in all surveys: 0.3% in 2002, and 0.2% in 2014 (Table 2A; Figure 1A).

*Students aged 13 years (HBSC):* non-daily smokers non-significantly decreased by about 40%, from 4.6%-6.5% in 2002 to 2.5%-4.3% in 2014. Daily smokers slightly and non-significantly decreased by 27%, from 3.0% in 2002 to 2.2% in 2014 (Table 2A; Figure 1A).

*Students aged 13-15 years (GYTS):* ever smokers stalled around 46% in both 2010 and 2014 surveys. Current smokers non-significantly increased in girls from 21.6% in 2010 to 26.3% in 2014, and from 19.4% to 20.6% in boys. Frequent smokers stalled at 7.6% (Table 2A; Figure 1B).

*Students aged 15 years (HBSC):* smokers less than once in a week non-significantly decreased from 9.1% in 2002 to 6.7% in 2014, whereas weekly-but-not-daily smokers stalled around 7%. Daily smokers stalled around 14%-15% (Table 2a; Figure 1B).

*Students aged 15-16 years (ESPAD):* ever smokers slightly and significantly decreased by 10% in 20 years, from 63.7% in 1995 to 57.6% in 2015. Current smokers stalled around 39% in girls and 35% in boys, whereas daily smokers stalled around 24% in girls and 21% in boys. Early daily smokers stalled around 4% (Table 2B; Figure 1B).

Regarding knowledge and attitudes towards smoking (Table 3), respondents in 2010 and 2014 GYTS surveys reported a significant 24% decrease in the perception that SHS is harmful, a significant 12% reduction in reporting that someone in the family discussed about the harmful effects of smoking; a 82% increase in the perception that young smokers have more friends, a 3-time higher percentage from 5.4% in 2010 to 15.2% in 2014 in reporting that young smokers look more attractive, and conversely a significant 34% reduction in reporting that young smokers look less attractive.

Regarding media role on tobacco smoking, GYTS respondents reported a significant 40%-50% decrease in remembering anti-tobacco media campaigns in the last 30 days, and in remembering anti-tobacco messages at events. On the contrary, there was a 36%-37% decrease in having something with a cigarette brand logo, and in having seen cigarette brand names in TV during the

last 30 days. More than 90% of GYTS respondents in both surveys reported that they saw people using tobacco in TV and movies (Table 3).

Regarding SHS exposure, GYTS participants reported a 30% decrease in seeing teachers smoking during school hours in the school building and outdoors on school premises, whereas there was a stall in reporting students smoking in the school building or outdoors in school premises. Around 50% reported to be exposed to SHS at home in both surveys (Table 3).

Regarding access to cigarettes, a significant 30% reduction in reporting that retailers did not refuse to sell cigarettes to adolescents because of their age, from 91.7% in 2010 to 63.9% in 2014, a non-significant 22% decrease in reporting to get cigarettes by buying them from a store, shop or street vendor, from 48.8% in 2010 to 38.2% in 2014, and a non-significant 29% decrease in reporting to buy cigarettes from vending machines, from 10.7% in 2010 to 7.6% in 2014. Conversely, a non-significant 71% increase in getting cigarettes from someone who bought cigarettes on their behalves, and a non-significantly 23% increase in getting cigarettes from other people (Table 3).

Regarding tobacco-related school curriculum, around 60% of GYTS participants reported in both surveys that they were taught at school about the dangers of tobacco.

About 60% of GYTS smokers in both surveys reported to have tried to quit during the past 12 months, and about 80% to be able to stop smoking if they wanted. Moreover, there was a 55% non-significant increase in the proportion of smokers that wanted to stop smoking at the time of the interview, from 28.0% in 2010 to 43.5% in 2014 (Table 3).



## **Discussion**

In this paper, all school surveys conducted in Italy in the past 20 years were used in order to describe trends of tobacco use among young people. Between 2002 and 2015, whereas tobacco use among students aged 11 and 13 years, appears to slightly reduce, tobacco use among adolescents aged 15-16 years has been stalling or even increasing, particularly in the last 5 years.

Of greater concern, many predictive factors of smoking in youths have increased. In fact, the appeal of smoking is increasing (“smokers have more friend, are more attractive”); less than half of 2014 GYTS respondents perceived SHS as harmful. Moreover, there was an important reduction in reporting recent anti-tobacco mass media campaigns or anti-tobacco messages at events, whereas more than 90% of respondents kept on reporting to be exposed to smoking scenes in movies or TV.

Trends in tobacco use among young people can be considered an indicator of future trend in prevalence among general population, since more than 80% of smokers start before 20 years of age.

[2] Moreover, some indicators of social acceptance of tobacco, documented by scientific studies as predictors of smoking onset, can also be interpreted as predictors of future trends in smoking prevalence among young people. [15]

During the period under study, some tobacco control policies have been introduced in Italy, but probably they have been insufficient. In fact, the Country Health Profile 2017 of the European Commission concluded that progress in reducing smoking among adolescents aged 15 years old remains limited in Italy. [18] According to the most recent survey in adolescents aged 15-16 years (the 2015 ESPAD survey), Italy recorded the first highest prevalence of current smokers in the European Union, both in boys and girls, and the second highest prevalence of daily smokers for boys after Romania, and the third highest prevalence of daily smokers among girls, after Croatia and Bulgaria. [10] Thus, Italy appears to move towards a new epidemic of tobacco use. In other European countries instead, the decrease in smoking prevalence is well documented. In France, for example, from 1999 to 2015 current smokers decreased from 44% to 26%, and daily smokers from

31% to 16%. In Sweden from 1995 to 2015, current and daily smokers decreased from 30% in 1995 to 13% in 2015, and from 16% to 6%, respectively. [10]

Main tobacco control measures introduced in Italy in the period 1995-2015 were the 2005 nationwide smoking ban in public places and workplaces [19], successive increases in cigarette price that more than doubled cigarette price from about €2 in 2000 for one 20-cigarette pack to around €5 in 2015 [20], and recently in 2013, the introduction of stricter rules on youth tobacco access that raised the minimum purchase age to 18 years, introduced higher fines to tobacco retailers who sold cigarettes to minors, automatic age detection systems in tobacco vending machines, and sale ban of electronic cigarettes to minors. [20]

However, effective tobacco control policies have yet to be introduced or have to be further developed: prices of tobacco products in Italy are substantially lower than those in other European countries [21]; no reductions in tobacco sales from stores or vending machines have been reported after the introduction of stricter rules on youth tobacco access. More importantly, the tobacco industry appears to regain a strong political influence in Italy: in 2014 the Prime Minister was the guest of honour at the inauguration ceremony for the building of the new plant in Bologna, Italy, for the production of heat-not-burn tobacco products, and also at the time of its opening in 2016. [22,23] In this scenario, effective tobacco control measures are struggling to be adopted in Italy. A little increase in tobacco price (less than 5%) proposed by the Italian Ministry of Health in December 2017, was rejected after a strong opposition by the Ministry of Economy. [24]

There are also a few positive signs. The first is the 30% reduction in reporting that retailers did not refuse to sell cigarettes to adolescents because of their age, due to the introduction in 2013 of stricter rules on tobacco access. Another positive indicator is that less than 10% of adolescents reported to have something with cigarette brand logos, and there was a decrease in reporting tobacco brand names seen at events. Finally, a substantial decrease in reporting that teachers smoked at school (indoor and outdoor), given the coming into force of the 2013 nation-wide smoking ban in outdoor school areas, was recorded. [20,25] Moreover, the coming into force in

2016 of the transposition in Italy of the European Directive 40/2014 on tobacco products, introduced some tobacco control measures that in next years could determine a reduction in smoking prevalence among adolescents: pictorial warnings in cigarette packages; higher fines and suspension or revocation of license for tobacco retailers who sold cigarettes to minors; ban of some additives in cigarettes; smoking ban in cars with minors and pregnant women; smoking ban in outdoor areas in hospitals around Gynecological and Pediatric Departments. [20]

This paper has some limits. First, one surveillance system that reported tobacco use among adolescents in Italy over the last 20 years was excluded (the multipurpose surveys 'Aspects of daily living' from the National Statistics Institute) [26], because it uses a family-based approach in the sampling frame and in administering questionnaires by interviewers at home. Second, tobacco use indicators used in ESPAD, HBSC, and GYTS are not completely comparable, and provide a partial picture of tobacco prevalence in Italian adolescents over the last 20 years. However, this non-detailed picture is sufficient, in our opinion, to describe trends in tobacco consumption in Italy in the last 2 decades among adolescents, and to denounce the serious situation of tobacco control in Italy.

## **Conclusions**

Policies put in place in Italy in the last 20 years were insufficient to prevent another epidemic of tobacco use in Italy. Strong tobacco control measures are urgently needed in order to determine a steeper decline in smoking prevalence in adolescents, such as a drastic rise in tobacco taxes, the introduction of well designed mass media anti-tobacco campaigns, that are lacking since many years, and the introduction of plain package, which showed positive results even in closer countries, such as France. [21, 27]

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**Conflict of interests:** none to declare

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Table 1: Characteristics of the three surveillance systems that carried out in Italy surveys on smoking habits in adolescents,

Surveillance system	Sample size & survey characteristics	Measures
ESPAD*	~4,000 adolescents aged 15-16 years; six surveys (1995;1999;2003;2007; 2011;2015)	Lifetime smoking <sup>1</sup> Current smoking <sup>2</sup> Daily smoking <sup>3</sup> Early-onset smoking <sup>4</sup>
HBSC**	~4,000 adolescents aged 11, 13, and 15 years; four surveys in Italy (2002;2006;2010;2014)	Less-than-weekly smoking <sup>5</sup> Weekly smoking, but not daily <sup>6</sup> Daily smoking <sup>3</sup>
GYTS***	~1,500 adolescents aged 13-15 years; two surveys in Italy (2010;2014)	Ever smoking <sup>1</sup> Current smoking <sup>2</sup> Frequent smoking <sup>7</sup>

\*ESPAD: European Survey European School Survey Project on Alcohol and Other Drugs

\*\* HBSC: Health Behaviour in School-aged Children

\*\*\* GYTS Global Youth Tobacco Survey

1 Ever or lifetime smoking: ever tried to smoke, even a puff

2 Current smoking: smoked  $\geq 1$  day in the last 30

3 Daily smoking (ESPAD): smoked  $\geq 1$  cigarette per day; Daily smoking (HBSC): "How often do you smoke tobacco at present?" 'Every day'

4 Early onset smoking: daily smoker since 13 years

5 Less-than-weekly smoking: smoked less than once a week

6 Weekly smoking, but not daily: smoked  $\geq$  once a week, but not every day

7 Frequent smoking: smoked  $\geq 20$  days in the last 30

Table 2A: Smoking prevalence among adolescents in Italy, 2002-2015, according to HBSC and GYTS surveillance systems in adolescents.

HBSC: Health Behaviour in School-aged Children

GYTS: Global Youth Tobacco Survey

Age, Surveillance system	Gender, Indicator	2002/2003	2006/2007	2010/2011	2014/2015	
		% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	
11 years, HBSC	Overall,	1.7	1.8	1.0	0.9	
	Less-than-weekly smoker	(1.1-2.8)	(1.1-2.9)	(0.6-1.8)	(0.5-1.7)	
	Overall,	1.3	0.5	0.6	0.6	
	Weekly, but not daily smoker	(0.8-2.3)	(0.2-1.2)	(0.3-1.1)	(0.3-1.3)	
	Daily smoker	(0.1-0.8)	(0.1-1.1)	(0.1-0.7)	(0.1-0.7)	
13 years, HBSC	Overall,	6.5	4.2	4.5	4.3	
	Less-than-weekly smoker	(5.1-8.1)	(3.2-5.5)	(3.5-5.7)	(3.3-5.5)	
	Overall,	4.6	3.5	2.9	2.5	
	Weekly, but not daily smoker	(3.4-6.0)	(2.4-5.1)	(2.1-4.0)	(1.8-3.5)	
	Daily smoker	(2.1-4.4)	(1.5-3.4)	(1.2-2.7)	(1.5-3.3)	
13-15 years GYTS	Boys, Ever smoker			45.1 (39.4 - 50.9)	46.0 (40.5 - 51.5)	
	Girls, Ever smoker			46.7 (39.6 - 53.9)	46.9 (41.3 - 52.6)	
	Overall, Ever smoker			46.0 (40.9 - 51.2)	46.4 (42.2 - 50.7)	
	Boys, Current smoker			19.4 (15.8 - 23.7)	20.6 (16.6 - 25.3)	
	Girls, Current smoker			21.6 (15.8 - 28.6)	26.3 (22.3 - 30.8)	
	Overall, Current smoker			20.7 (16.8 - 25.2)	23.4 (20.8 - 26.4)	
	Boys, Frequent smoker			6.3 (4.3 - 9.2)	7.9 (5.5 - 11.1)	
	Girls, Frequent smoker			8.3 (5.3 - 12.9)	7.3 (5.2 - 10.1)	
	Overall, Frequent smoker			7.6 (5.7 - 10.0)	7.6 (6.0 - 9.5)	
	15 years, HBSC	Overall,	9.1	6.8	7.6	6.7
	Less-than-weekly smoker	(7.6-11.0)	(5.5-8.3)	(6.3-9.2)	(5.3-8.4)	
	Overall,	7.5	5.9	6.7	8.1	
	Weekly, but not daily smoker	(5.9-9.4)	(4.7-7.5)	(5.6-8.2)	(6.6-9.9)	
Overall,	15.8	13.9	15.8	13.1		
Daily smoker	(13.3-18.7)	(11.8-16.4)	(13.7-18.1)	(10.9-15.7)		

Table 2B: Smoking prevalence among adolescents in Italy, 1995-2015, according to ESPAD surveillance systems in adolescents.

ESPAD: European School Survey Project on Alcohol and Other Drugs

Age, Surveillance system	Gender, Indicator	1995	1999	2002/2003	2006/2007	2010/2011	2014/2015
		% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
15-16 years, ESPAD	Boys, Ever smoker	62.3 (59.1-65.5)	60.8 (58.5-63.2)	60.5 (58.5-62.6)	59.3 (58.0-60.6)	58.4 (56.5-60.4)	55.4 (53.3-57.5)
	Girls, Ever smoker	65.8 (61.9-69.7)	66.0 (64.1-67.9)	66.5 (64.6-68.3)	64.6 (63.2-66.0)	59.0 (57.0-60.9)	59.9 (57.8-62.1)
	Overall, Ever smoker	63.7 (61.2-66.2)	63.9 (62.4-65.4)	63.7 (62.3-65.1)	61.8 (60.8-62.7)	58.7 (57.3-60.1)	57.6 (56.1-59.1)
	Boys, Current smoker	34.3 (31.1-37.5)	35.8 (33.5-38.1)	33.3 (31.3-35.2)	34.9 (33.6-36.2)	35.5 (33.7-37.4)	34.6 (32.5-36.6)
	Girls, Current smoker	36.5 (32.5-40.5)	42.5 (40.5-44.4)	39.3 (31.3-35.2)	40.2 (38.7-41.6)	37.4 (35.4-39.4)	39.7 (37.5-41.9)
	Overall, Current smoker	35.2 (32.7-37.6)	39.7 (38.2-41.2)	36.5 (35.1-37.9)	37.3 (36.4-38.3)	36.5 (35.1-37.8)	37.1 (35.6-38.6)
	Boys, Daily smoker	20.3 (17.6-22.9)	17.8 (16.0-19.7)	20.5 (18.9-22.2)	23.7 (22.6-24.9)	22.7 (21.0-24.4)	20.6 (18.8-22.3)
	Girls, Daily smoker	22.5 (19.1-26.0)	26.1 (24.3-27.8)	21.7 (20.1-23.3)	25.7 (24.5-27.0)	22.6 (20.9-24.3)	22.2 (20.4-24.1)
	Overall, Daily smoker	21.1 (19.0-23.3)	22.7 (21.4-24.0)	21.2 (20.0-22.3)	24.7 (23.8-25.5)	22.7 (21.5-23.8)	21.4 (20.1-22.6)
	Boys, Early daily smoker	4.5 (3.1-5.9)	4.8 (3.7-5.8)	5.6 (4.7-6.6)	6.2 (5.6-6.9)	5.0 (4.1-5.9)	4.5 (3.6-5.3)
	Girls, Early daily smoker	4.5 (2.7-6.2)	6.7 (5.7-7.7)	5.6 (4.7-6.5)	5.5 (4.9-6.2)	5.0 (4.1-5.9)	3.4 (2.6-4.2)
	Overall, Early daily smoker	4.5 (3.4-5.6)	5.9 (5.2-6.7)	5.6 (4.9-6.2)	5.9 (5.4-6.4)	5.0 (4.4-5.6)	3.9 (3.3-4.5)

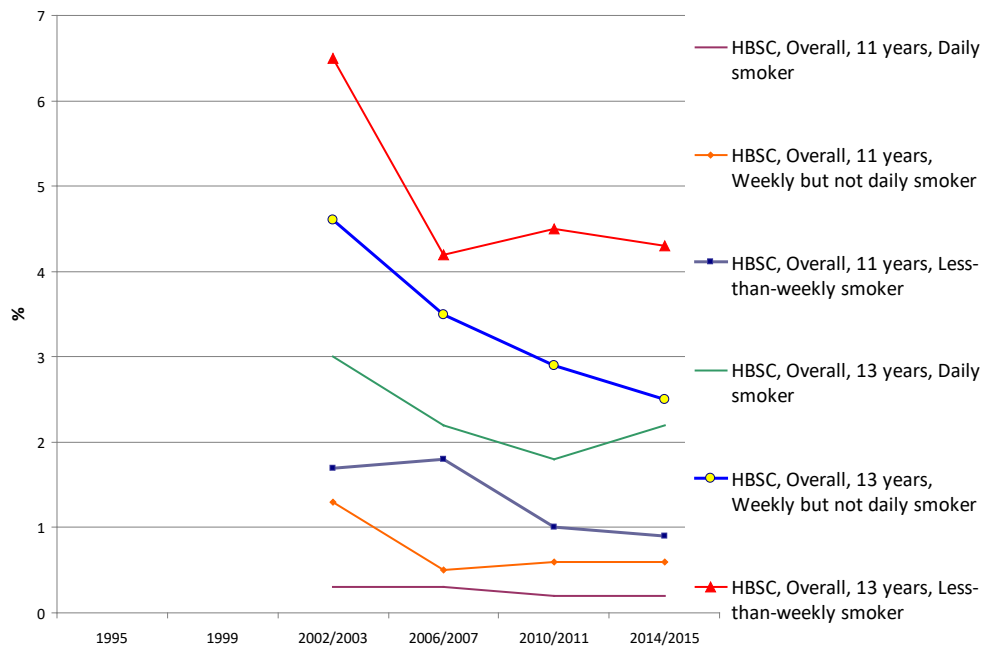
Figure 1: Smoking prevalence indicators in adolescents aged 13-16 years in both genders (overall), 1995-2015, from three different surveillance systems on adolescents (ESPAD, HBSC, GYTS).

ESPAD: European School Survey Project on Alcohol and Other Drugs

HBSC: Health Behaviour in School-aged Children

GYTS Global Youth Tobacco Survey

A: Daily, weekly-but-not-daily, less-than-weekly smokers in students aged 11-13 from HBSC surveys



B: Current, daily, weekly-but-not-daily, less-than-weekly smokers in students aged 13-15 from ESPAD, HBSC, and GYTS surveys

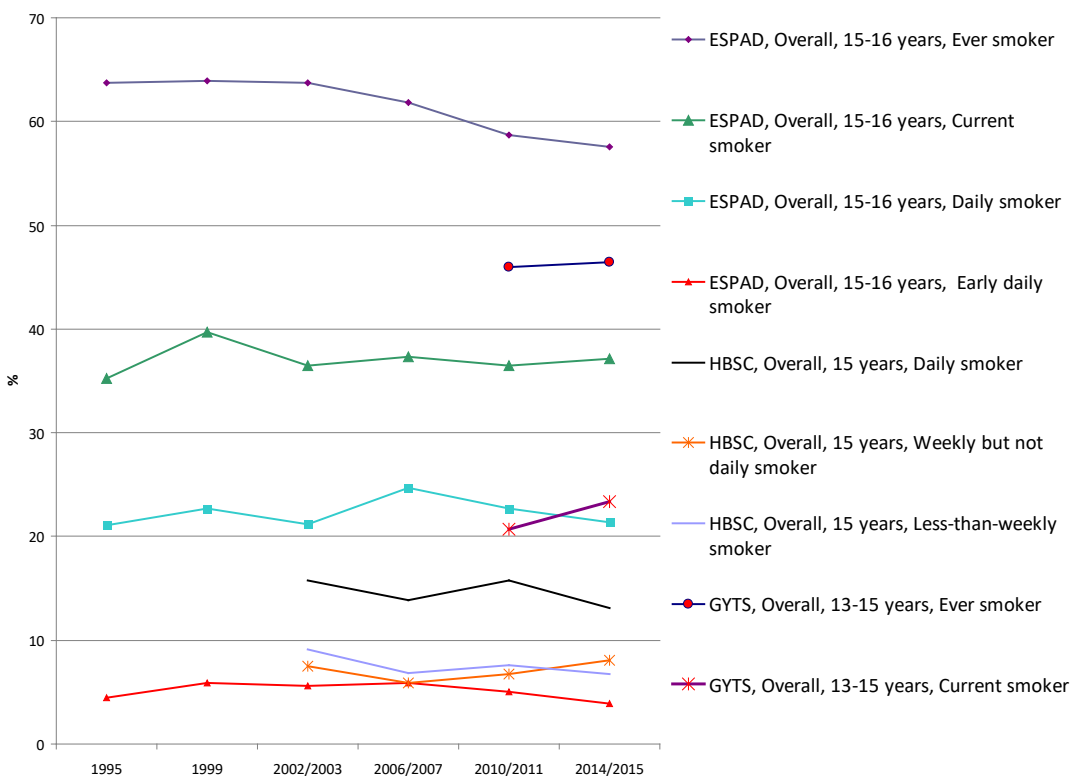


Table 3: Global Youth Tobacco Survey: selected items on knowledge & attitudes, media role, second-hand smoke (SHS) exposure, access to cigarettes, tobacco-related school curriculum, and smoking cessation.

<b>GYTS domains and questions (to all participants/smokers)</b>	<b>2010 % (95%CI)</b>	<b>2014 % (95%CI)</b>
<b>Knowledge &amp; attitudes (to all participants)</b>		
Do you think the smoke from other people's tobacco smoking is harmful to you? <i>Yes</i>	61.6 (56.5 - 66.5)	47.0 (44.4 - 49.7)
Has anyone in your family discussed the harmful effects of smoking tobacco with you? <i>Yes</i>	78.0 (75.5 - 80.3)	69.0 (66.3 - 71.5)
Do you think young people who smoke tobacco have more or less friends?		
<i>More friends</i>	11.7 (9.9 - 13.8)	21.3 (18.8 - 24.1)
<i>Less friends</i>	7.7 (6.2 - 9.4)	6.1 (5.0 - 7.6)
Do you think smoking tobacco makes young people look more or less attractive?		
<i>More attractive</i>	5.4 (4.5 - 6.6)	15.2 (13.2 - 17.5)
<i>Less attractive</i>	34.9 (30.7 - 39.4)	23.2 (20.0 - 26.8)
Do you think smoking tobacco helps people feel more comfortable or less comfortable at celebrations, parties, or in other social gatherings?		
<i>More comfortable</i>	38.6 (34.8 - 42.5)	45.1 (41.0 - 49.3)
<i>Less comfortable</i>	10.2 (8.6 - 12.1)	9.9 (8.1 - 12.0)
<b>Media role (to all participants)</b>		
Do you have something (for example, t-shirt, pen, backpack) with a tobacco product brand logo on it? <i>Yes</i>	13.2 (11.6 - 15.1)	8.4 (6.8 - 10.3)
During the past 30 days, did you see any people using tobacco when you watched TV, videos, or movies? <i>Yes</i>	97.6 (96.7 - 98.3)	91.3 (89.2 - 93.0)
During the past 30 days, did you see any tobacco product brand names when you watched sports events or any other programs on TV? <i>Yes</i>	63.4 (61.0 - 65.6)	39.9 (36.5 - 43.4)
During the past 30 days, did you see or hear any anti-tobacco media messages on television, radio, internet, billboards, posters, newspapers, magazines, or movies? <i>Yes</i>	91.2 (89.5 - 92.7)	48.6 (45.4 - 51.8)
During the past 30 days, did you see or hear any anti-tobacco messages at sports events, fairs, concerts, or community events, or social gatherings? <i>Yes</i>	61.8 (59.1 - 64.4)	37.6 (34.1 - 41.3)

Table 3 (continue): Global Youth Tobacco Survey: selected items on knowledge & attitudes, media role, second-hand smoke (SHS) exposure, access to cigarettes, tobacco-related school curriculum, and smoking cessation.

GYTS domains and items (to all participants/smokers)	2010 % (95%CI)	2014 % (95%CI)
<b>SHS exposure (to all participants)</b>		
During the past 7 days, on how many days has anyone smoked inside your home, in your presence? <i>Yes</i>	48.5 (43.8 - 53.2)	49.9 (45.7 - 54.1)
During school hours, how often do you see teachers smoking in the school building? <i>About every day/sometimes</i>	44.0 (38.3 - 49.7)	31.7 (25.2 - 39.0)
outdoors on school premises? <i>About every day/sometimes</i>	66.9 (61.5 - 71.8)	46.6 (40.0 - 53.3)
During school hours, how often do you see students smoking in the school building? <i>About every day/sometimes</i>	56.4 (50.3 - 62.2)	51.4 (45.7 - 57.1)
outdoors on school premises? <i>About every day/sometimes</i>	76.4 (72.0 - 80.4)	78.2 (75.0 - 81.1)
<b>Access to cigarettes (to smokers)</b>		
During the past 30 days, did anyone refuse to sell you cigarettes because of your age? <i>No</i>	91.7 (83.2 - 96.1)	63.9 (57.5 - 69.8)
Current cigarette smokers who got cigarettes <i>buying them in a store, shop, or street vendor</i>	48.8 (41.2 - 56.4)	38.2 (31.5 - 45.3)
<i>buying them in vending machines</i>	10.7 (7.1-15.9)	7.6 (5.3-11.0)
<i>giving money to someone else who bought cigarettes on his/her behalf</i>	9.2 (5.3-16.5)	15.7 (10.9-22.0)
<i>from other people</i>	31.3 (26.4-36.6)	38.5 (31.5-45.9)
Has a person working for a tobacco company ever offered you a free tobacco product? <i>Yes</i>	7.1 (5.5 - 9.2)	5.3 (4.2 - 6.7)
<b>Tobacco-related school curriculum (to all participants)</b>		
During the past school year, were you taught in any of your classes about the dangers of tobacco use? <i>Yes</i>	59.1 (54.8 - 63.3)	62.3 (57.8 - 66.6)
<b>Smoking cessation (to smokers)</b>		
During the past 12 months, did you ever try to stop smoking? <i>Yes</i>	66.2 (59.9 - 72.0)	59.3 (52.7 - 65.5)
Do you want to stop smoking now? <i>Yes</i>	28.0 (21.9 - 35.0)	43.5 (33.5 - 54.2)
Do you think you would be able to stop smoking if you wanted to? <i>Yes</i>	81.4 (76.6 - 85.5)	86.4 (80.5 - 90.8)