

FEDERALNO MINISTARSTVO ZDRAVSTVA  
FEDERAL MINISTRY OF HEALTH

 ZAVOD ZA JAVNO ZDRAVSTVO FBiH  
INSTITUTE FOR PUBLIC HEALTH FB&H

PARTNERSTVO  
ZA JAVNO ZDRAVLJE



PARTNERSHIP  
FOR PUBLIC HEALTH



PODRŽANO OD STRANE VLADE KANADE  
SUPPORTED BY THE GOVERNMENT OF CANADA  
SOUTENU PAR LE GOUVERNEMENT DU CANADA



CPHA ACSP  
CANADA'S PUBLIC HEALTH LEADER  
LE LEADER CANADIEN EN SANTÉ PUBLIQUE

# Knowledge, attitude and behaviour related smoking among school children in the Federation of Bosnia and Herzegovina 2003 – 2008

Sarajevo, 2009

**Federal Ministry of Health**

 **ZAVOD ZA JAVNO ZDRAVSTVO FBiH**  
**INSTITUTE FOR PUBLIC HEALTH FB&H**

**PARTNERSTVO  
ZA JAVNO ZDRAVLJE**   **PARTNERSHIP  
FOR PUBLIC HEALTH**



**Knowledge, attitude and behaviour related  
smoking among school children in the Federation of  
Bosnia and Herzegovina - results of Global Youth Tobacco  
Survey (GYTS) 2003 – 2008**

Sarajevo, January 2009.

**Knowledge, attitude and behaviour related smoking among school  
children in the Federation of Bosnia and Herzegovina –  
- results of Global Youth Tobacco Survey (GYTS) 2003 – 2008**

**Federal Public Health Institute**

**Sarajevo, M.Tita 9, tel. ++ 387 33 663 941 fax. ++ 387 33 220 548**

**Mostar, Vukovarska bb, tel. ++ 387 36 324 687, fax. ++ 387 36 324 697**

**email: [dir@bih.net.ba](mailto:dir@bih.net.ba), [www.zzjzfbih.ba](http://www.zzjzfbih.ba)**

Report prepared by:

**Mr. sc. dr Aida Ramić-Čatak, Federal GYTS Co-coordinator**

Translation by:

**Mr. sc. dr Aida Ramić-Čatak**

Text editing:

**Nataša Kovačević, CPHA Project Officer**

Technical editing:

**Muris Krupić**

Press/publish by:

**Pieces: 100**

***Global Youth Tobacco Survey in the Federation of Bosnia and Herzegovina have been conducted in 2003 and 2008, by Federal Public Health Institute in collaboration with Federal Ministry of Health, Federal Ministry of Education, Cantonal Ministries of Education, Cantonal Public Health Institutes, NGO Partnership for Public Health, WHO Regional Office Copenhagen, CDC USA, and CIDA/CPHA.***



## **Content**

<b>Contributors in GYTS survey</b>	<b>6</b>
<b>Preface</b>	<b>7</b>
<b>Introduction</b>	<b>8</b>
<b>Tobacco as a public Health challenge in the Federation of B&amp;H</b>	<b>9</b>
<b>Survey Methodology</b>	<b>11</b>
Sample	11
Response rate	11
Data collection	12
GYTS questionnaire	13
Data processing	13
<b>Survey results</b>	<b>14</b>
Smoking prevalence	14
Exposure to ETS	15
Smoking prevention in school curriculum	16
Media and advertisement	17
Cessation	19
Access and availability	20
Knowledge and attitude	21
<b>Discussion</b>	<b>24</b>
<b>Recommendations</b>	<b>27</b>
<b>Literature</b>	<b>29</b>

## Contributors:

The following organizations, Ministries and individuals contributed to implementation of the 2008 GYTS in the Federation of BiH:

### **Centres for Disease Control and Prevention (CDC) – Office on Smoking and Health**

Dr. Charles W. Warren

Veronica Lea

Ann Goding

### **Canadian Public Health Association (CPHA)**

Jim Chauvin

Geza Radu

### **NGO Partnership for Public Health**

Svjetlana Fabijanč-Grbić

Sejdefa Bašić-Ćatić

Dr. Bakir Nakaš

Nataša Kovačević

### **Federal Public Health Institute**

Dr. Zlatko Vučina

Dr. Aida Ramić-Čatak

Subhija Bezdob

Azra Spahić

Admir Korman

Vinka Čuljak

### **Cantonal Public Health Institute Bihać**

Emira Jusić

### **Cantonal Public Health Institute Travnik**

Lazar Đurđević

### **Federal Ministry of Health**

Prim. mr sc dr. Safet Omerović, Federal Minister of Health

### **Federal Ministry of Education**

Meliha Alić, Federal Minister of Education

### **Cantonal Ministries of Education**

Ministry of Education of Canton Sarajevo

Ministry of Education of Zeničko-dobojski Canton

Ministry of Education of Hercegovačko-neretvanski Canton

Ministry of Education of Srednjobosanski Canton

Ministry of Education of Tuzlanski Canton

Ministry of Education of Unsko-sanski Canton

Ministry of Education of Zapadnohercegovački Canton

Ministry of Education of Canton 10

## Preface

The Global Youth Tobacco Survey (GYTS) is a comprehensive school-based survey related to youth smoking knowledge, attitudes and behaviour. During period 2003-2008 it was conducted two times in the Federation of B&H. The Federal Ministry of Health and Federal Ministry of Education authorized the survey, which was conducted by the Federal Public Health Institute (as the lead implementing agency) in collaboration with NGO Partnership for Public Health, founded as a part of CIDA/CPHA Project of strengthening of civil society in Bosnia and Herzegovina.

The survey design, data collection and analysis were carried out in collaboration and with the supervision of the US Centres for Disease Control and Prevention (CDC), the Tobacco Free Initiative at the WHO Regional Office for Europe and the Canadian Public Health Association (CPHA), which funded surveys in the Federation of B&H.

With the goal of collecting significant data in support of the development of national tobacco control strategies, Bosnia, and Herzegovina join to network of more than 148 countries worldwide where the GYTS has been implemented. The GYTS also supports national institutional capacity building, as the recommendation is for the GYTS survey to be conducted at regular time intervals, such that it becomes a surveillance method as well as a means of evaluation for tobacco control and smoking prevention programs.



## Introduction

Tobacco consumption and tobacco related morbidity and mortality are significant health issues in many countries around the world. The World Health Organisation attributes 4 million deaths a year caused by tobacco, with this figure expected to rise to 10 million deaths a year by 2030.

A survey result indicates that there are 1.3 billions adult's smokers worldwide (over age 15) out of which over 85% from underdeveloping countries. Without comprehensive tobacco control measures, there are arguments for increasing a number of smokers worldwide to 1.7 billions in period 2020-2025. Tobacco use is a risk for six of the eight leading causes of death in the world. Smoking tobacco causes cancer of the lung, larynx, kidney, bladder, stomach, colon, oral cavity and oesophagus, leukaemia, stroke, miscarriage and premature birth, birth defects and infertility among other diseases (1)

Through European Tobacco Control Report 2007, there are evidence for trends of stabilisation of smoking prevalence in adults (28.6%) which is still one of major public health threats for health in Europe. Surveys indicate high smoking prevalence in male (40%) particularly in east part of Region, while there are some decreasing smoking prevalence in west part of Region (30%). Smoking prevalence in females is 18.2% with increasing trend in west part of Region and decreasing in east part of Region.(2)

Survey results (HBSC, ESPAD) shows smoking prevalence in youth age 13-15 in average is 14%, out of which 25% of youth started to smoke before age 10. In age 15-18 there is significant increase of smoking prevalence to 30%, without significant differences between west and east part of Region.(3)

## **Tobacco as a public health challenge in the Federation of Bosnia and Herzegovina**

In the Federation of Bosnia and Herzegovina, tobacco consumption has a significant impact on population health. Recently performed surveys in the Federation of B&H indicate an adult smoking prevalence of 37.6% daily smokers aged 18-65 years, (female smoking prevalence: 29.7%: male smoking prevalence: 49.2% male) (5)

Results collected in GYTS performed 2003 in the Federation of Bosnia and Herzegovina indicated smoking as a significant risk factor among youth with almost 14% current smoking prevalence in age 13-15, out which almost 17% boys and 10.0% girls. (6)

Results from surveys performed among students of nursing schools and health faculties indicates high smoking prevalence, with 33% smoking prevalence in nursing student out which 27,3% male and 34,8% females, 47% smokers in medicine student out which 56.4% male and 41% females, smoking prevalence of 40% in dentistry student, out which 40% male and 39,5% females and 29.5% smokers in pharmacy student out which 26.7% male and 30% females. (7)

As in other countries in the Central and Eastern Europe region, tobacco is a leading health risk factor in the FBiH. Available data collected by the Federal Public Health Institute indicate increasing trends in tobacco related diseases such as cardiovascular diseases, obstructive respiratory diseases, and particularly increasing trends of bronchial and lung carcinoma directly connected to smoking as the main risk factor.(8)

Legislation framework of tobacco control measures is contained in national Tobacco Control Law adopted in 1998, which ban sale of tobacco products under age of 15, ban tobacco advertisement and promotion in medias as also smoking in public places, schools, health institutions and public transport vehicles. In line with FCTC and EU Tobacco control Directives Federal Ministry of Health drafted new Tobacco control law which is still procedure of Parliament adoption. (9)

Most part of national tobacco control measures is a part of Tobacco Control Strategy adopted in 2003 by Government and Parliament of the Federation of Bosnia and Herzegovina in 2003, designed in line with WHO European Tobacco Control Strategy and Framework Convention of Tobacco Control (FCTC). (10)

In 2005 under leadership of WHO Regional office Copenhagen – Initiative for Social Cohesion and Secretariat of Pact of Stability, European Commission, Council of

Europe and under regional management of School of Andrija Štampar from Zagreb, Croatia started Project “Strengthening Public Health Capacity Building in Tobacco Control in South–East Europe 2005-2007” with aim to assist and support SEE countries to improve, create and build capacities for national tobacco control and facilitate of process of ratification and implementation of Framework Convention of Tobacco Control WHO (FCTC). As one of SEE countries, where tobacco control represents a one of public health priorities, Bosnia and Herzegovina is actively involved in project implementation.

Project components are: raising awareness and capacity building for the entry into a force of FCTC in the Region, improving the knowledge and skills of policy makers and public health leaders in planning and management of comprehensive tobacco control, information campaigns aimed to increasing awareness and support of public for tobacco control policy and increasing institutional and human capacity in the region for providing smoking cessation services. (10,11,12)

## **Methodology**

### ***Sampling***

The GYTS is a school-based survey, which employs a two-stage cluster sample design to produce representative sample of students in primary school grades 7 and 8 of primary and 1 grade of secondary school. (13)

After obtaining school enrolment data from the Federal Ministry of Education and the Federal Institute of Statistics, schools were selected based on a probability proportional to school enrolment size. The first-stage sampling frame consisted of all regular primary and secondary schools that contained 40 or more students were included in the sampling frame. The final sample produced by CDC was composed of 60 primary and secondary schools, with 20 schools selected from Sarajevo Canton, 20 schools from other urban areas and 20 schools from rural areas.

The second sampling stage consisted of systematic equal probability sampling (with a random start) of classes from each school selected to participate in the survey. All classes in the selected school were included in the sampling frame. All students in the selected classes were eligible to participate in the survey. Participation by the students was voluntary.

### ***Response rates***

Reponses rate of schools was 100,00% means 60 of the 60 schools sampled participated.

A total of 5,714 of the 6,341 sampled students completed usable questionnaires with response rate of 90.54%. Overall response rate was 90,54%.

In capital cities, response rate of schools was 100,00% means 20 of the 20 sampled schools participated, with 1,764 of the 2,017 sampled students completed usable questionnaires with response rate of 87.46%.

In other urban cities, response rate of schools was 100,00% means 20 of the 20 sampled schools participated, with 1,974 of the 2,157 sampled students completed usable questionnaires with response rate of 91.52%.

In rural cities, response rate of schools was 100,00% means 20 of the 20 sampled schools participated, with 2,003 of the 2,167 sampled students completed usable questionnaires with response rate of 92.43%.

## **Data Collection**

Before starting the field work in schools, permission had to be obtained from school directors to conduct the surveys, the number of eligible classes for each school had to be determined in order to facilitate sampling of classes, and logistical arrangements had to be made for survey administration. An introductory letter was sent by the Federal Institute of Public Health to school directors and teachers as well as to the Federal Ministry of Health and Federal Ministry of Education.

All school directors and teachers were briefed about the objectives of the survey, how the survey was to be administered and the procedures that were to be employed to ensure anonymity and confidentiality for students and schools. Survey documentation, composed of the GYTS questionnaire and the survey answer sheets, the parent notification form, and the school and class identification forms for field workers were also distributed. As FBiH has two official languages, it was necessary to translate the questionnaire into both Bosnian and Croatian.

As an implementing agency Federal Public Health Institute selected survey field workers among public health professionals already experienced in performing surveys. Before start of fieldwork, Federal Public Health Institute organized and conducted a training workshop for briefing survey field workers about the survey's objectives, and as well about survey administration procedures, data collection and the return of survey answer sheets and other documents to the Federal FYTS Co-ordinator following the completion of the GYTS.

Survey procedures were designed to protect the students' privacy by allowing for anonymous and voluntary participation. Students recorded their responses directly on an answer sheet that could be scanned by a computer. The questionnaire took approximately 45 minutes to complete.

## ***Survey questionnaire***

The self-administered questionnaire contained 80 multiple-choice questions related to tobacco use, smoking dependency and susceptibility, anti-tobacco information contained in school curriculum, smoking cessation, exposure to environmental tobacco smoke, knowledge, attitudes and perceptions about smoking, exposure to anti-tobacco and pro-tobacco advertising, and access and availability of tobacco products to minors.

## ***Data Analysis***

SUDAAN and EpiInfo2000 were the statistical packages used to analyse the survey data, to account for the complex design and weighing factors in the data set, and to calculate standard errors and prevalence estimates. Statistical differences were determinate using a 95% confidence interval.

## Results

Table 1: Prevalence – Federation of Bosnia and Herzegovina, 2003 and 2008 (13-15 years)

Prevalence	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
Ever smoked cigarettes	45.0 (39.1- 51.1)	47.3 (41.7- 53.0)	42.0 (34.5- 50.0)	45.9 (41.5- 50.4)	52.9 (48.7- 57.0)	39.0 (33.6- 44.7)
Ever Smokers, first smoked cigarettes before age 10	36.2 (30.6- 42.3)	36.0 (30.7- 41.7)	35.8 (28.1- 44.3)	36.6 (32.3- 41.1)	41.3 (37.4- 45.3)	30.9 (24.4- 38.2)
Current cigarette smoker	11.9 (9.3- 15.1)	15.0 (11.3- 19.5)	8.4 (6.0- 11.7)	14.3 (11.5- 17.8)	17.6 (14.6- 21.0)	11.3 (7.9- 15.8)
Current user of other tobacco products	8.3 (6.9- 10.0)	10.1 (7.7- 13.2)	5.4 (4.0- 7.3)	8.8 (7.1- 10.9)	10.9 (8.9- 13.2)	6.7 (4.6- 9.9)
Never smokers likely to initiate smoking in the next year	25.8 (22.2- 29.8)	27.7 (24.1- 31.5)	23.5 (18.5- 29.4)	26.1 (24.0- 28.3)	24.6 (21.2- 28.4)	27.1 (24.5- 29.9)

Regarding ever smoked cigarettes, there is an increasing trend of ever smoker prevalence from 45.0% in 2003 to 45.9% in 2008 year, with increasing ever smoke prevalence in boys, from 47.3% in 2003 to 52.9% in 2008 and decreasing ever smoke prevalence in girls from 42.0% in 2003 to 39.0% in 2008, without statistical significance between the two points in time. It is increase percentage of ever smokers who start to smoke before age 10, from 36.2% in 2003 to 36.6% in 2008, with increasing trends in boys 36.0% in 2003 to 41.3% in 2008 as also decreasing in girls from 35.8% in 2003 to 30.9% in 2008, without statistical significance between the two points in time.

In line with current cigarette smoke trends, it is evidence of increasing prevalence from 11.9% in 2003 to 14.3% in 2008, with increasing trends in boys from 15.0% in 2003 to 17.6% in 2008, as also girls with 8.4% in 2003 to 11.3% in 2008, without statistical significance.

Regarding current use of other tobacco products, it is increase from 8.3% in 2003 to 8.8% in 2008, out which boys from 10.1% in 2003 to 10.9% in 2008 and girls 5.4% in 2003 to 6.7% in 2008, without statistical significance. Percentage of never smokers likely to initiate smoking next year, is increase from 25.8% in 2003 to 26.1% in 2008, as also decrease in boys from 27.7% in 2003 to 24.6% in 2008 and increase in girls from 23.5% in 2003 to 27.1% in 2008, without statistical significance. (Table 1)

Graphic 1: Current cigarette smokers age 13-15, the Federation of Bosnia and Herzegovina 2003-2008

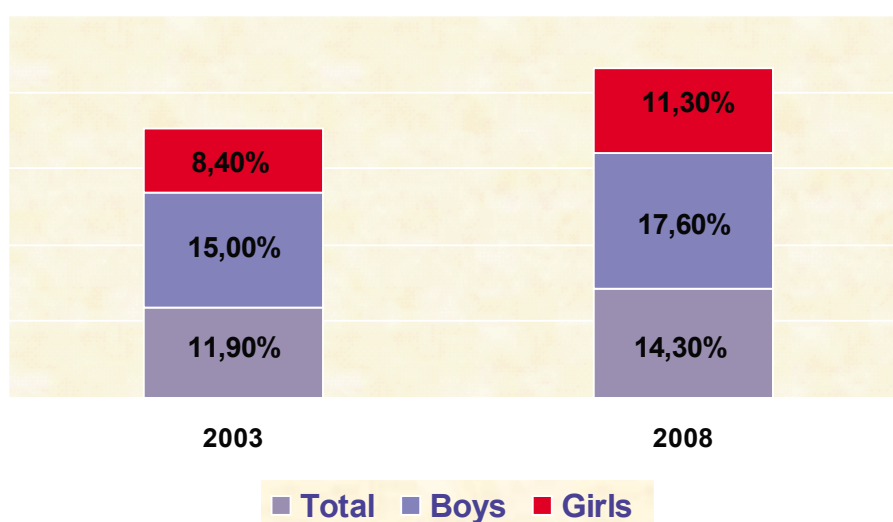


Table 2: Exposure to smoke

EXPOSURE TO SMOKE	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
One or more parents smoke	68.8 (66.2- 71.3)	67.8 (64.6- 70.9)	69.3 (64.4- 73.8)	63.8 (61.5- 66.0)	62.6 (59.9- 65.3)	64.8 (61.9- 67.7)
All or most best friends smoke	13.5 (10.6- 17.0)	14.0 (11.1- 17.5)	12.5 (9.2- 16.7)	16.0 (12.7- 19.9)	15.9 (12.8- 19.7)	15.9 (11.8- 21.1)
Exposed to smoke in public places	NA	NA	NA	85.0 (83.1- 86.6)	83.5 (81.3- 85.4)	86.4 (84.4- 88.2)
In favour of banning smoking in public places	86.1 (83.6- 88.3)	86.2 (82.8- 89.1)	86.5 (83.4- 89.1)	86.6 (84.5- 88.4)	84.9 (82.3- 87.1)	88.2 (85.6- 90.4)



Regarding parental smoking, overall there is a decrease of percentage of one or more parents smoke from 68.8% in 2003 to 63.8% in 2008. Similar decreases were reported by both boys and girls, but none are statistically significant.

From aspect of having a best friend who smokes, overall it increases from 13.5% in 2003 to 16.0% in 2008. There were also increases reported both among the boys and among the girls, without statistical significance. It is evidence of still high exposure to smoke in public places, with 85.0% in 2008, out which 83.5% in boys and 86.4% in girls, without statistical significance.

Attitude for favour of banning smoking in public places increase from 86.1% in 2003 to 86.6% in 2008, with decrease in boys and increase in girls, without statistical significance. (Table 2)

Graphic 2: Students age 13-15 in favour of banning smoking in public places, the federation of Bosnia and Herzegovina 2003-2008

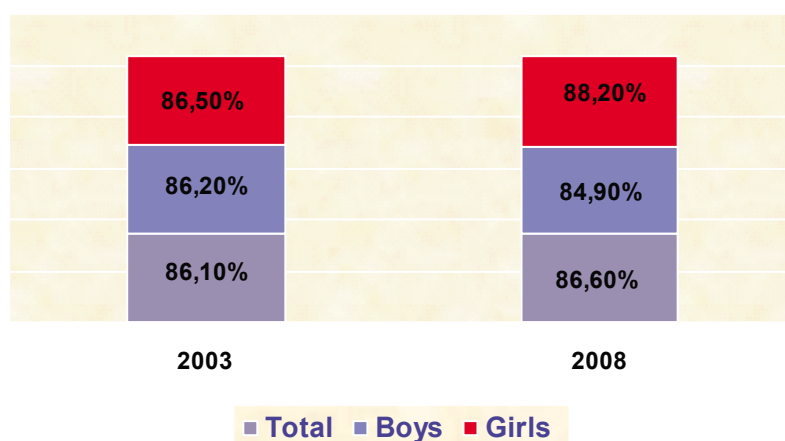


Table 3: Smoking prevention in school program

SMOKING PREVENTION IN SCHOOL PROGRAM	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
During this school year, were taught in any classes about the dangers of smoking	65.8 (59.4- 71.7)	66.4 (57.9- 74.0)	65.5 (59.0- 71.5)	66.2 (62.6- 69.6)	66.5 (63.3- 69.5)	66.2 (61.6- 70.5)

In the Federation of Bosnia and Herzegovina is increase percentage of students reported being taught in school during past year about dangers of smoking, from 65.8% in 2003 to 66.2% in 2008. There were no significant differences by gender. (Table 3)

Graphic 3: Students age 13-15 taught in any class about dangers of smoking, Federation of Bosnia and Herzegovina 2003-2008

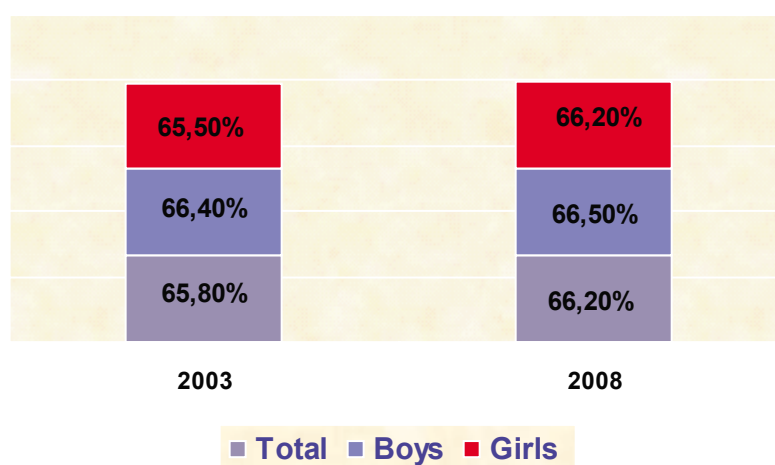


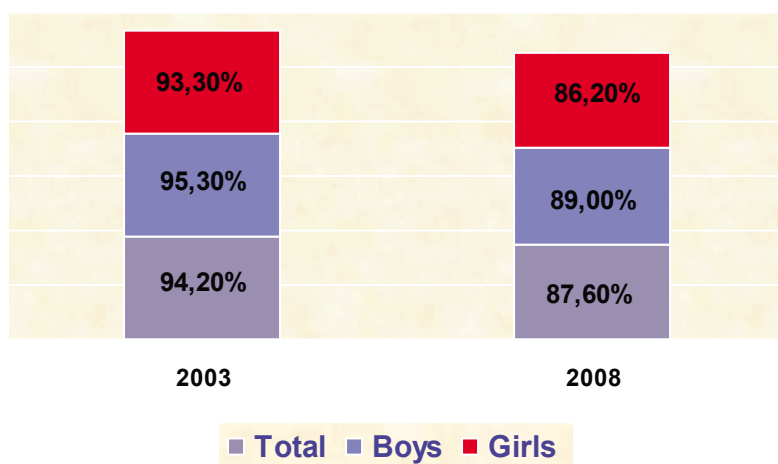
Table 4: Media/advertising

MEDIA/ADVERTISING	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
During the past month saw any anti-smoking media messages	94.2 (92.8-95.4)	95.3 (93.4-96.7)	93.3 (91.2-95.0)	87.6 (86.0-89.0)	89.0 (87.5-90.3)	86.2 (84.1-88.1)
During the past month saw any advertisement for cigarettes on billboards	72.1 (68.1-75.8)	76.3 (71.3-80.7)	68.6 (63.3-73.5)	70.4 (67.4-73.2)	71.7 (68.4-74.8)	69.1 (65.9- 72.2)
During the past month saw any advertisements or promotions for cigarettes in newspapers or magazines	76.2 (73.4-78.8)	77.1 (74.8-79.2)	75.8 (71.3-79.8)	72.8 (70.9-74.6)	72.8 (70.3-75.1)	72.9 (70.5- 75.2)
Percent who saw pro-tobacco advertisement for cigarettes at sports events	74.6 (70.7-78.2)	78.0 (72.7-82.5)	70.7 (66.2-74.8)	67.7 (65.7-69.6)	67.8 (65.2-70.3)	67.4 (64.6- 70.a)
Percent who saw pro-tobacco advertisement for cigarettes at the concerts	70.4 (66.8-73.8)	71.0 (66.6-75.1)	69.7 (65.0-74.0)	65.7 (62.9-68.5)	66.0 (62.4-69.4)	65.4 (61.9- 68.7)
Have an object (t-shirt, pen, backpack, etc) with a cigarette brand logo on it	20.5 (18.1-23.1)	23.8 (20.8-27.2)	16.1 (12.8-20.0)	20.6 (18.6-22.7)	23.7 (21.2-26.5)	17.6 (15.5- 20.1)

Surveys results show decrease of presence of anti-smoking messages in media, from over 9 in ten students (94.2%) in 2003 who saw anti-smoking messages in media to over 8 in 10 (87.6%) in 2008, without significant differences by gender.

Regarding exposure to pro-smoking messages in medias, there is evidence of decrease in some medias during period 2003-2008, from 72.1% in 2003 to 70.4% in 2008, for advertisement in billboards, from 76.2% in 2003 to 72.8% in 2008 for newspapers and magazines, from 74.6% in 2003 to 67.7% in 2008 for sport events and finally, from 70.4% in 2003 to 65.7% in 2008 for concerts. Over 2 in 10 students (20.6% in 2003 and 20.6% in 2008) have an object with a cigarette brand logo, with increase in girls, without statistical significance. (Table 4)

Graphic 4: Students age 13-15 saw any anti-smoking media messages, Federation of Bosnia and Herzegovina 2003-2008



Graphic 5: Students age 13-15 saw any advertisement for cigarettes in billboards, during the past month, Federation of Bosnia and Herzegovina 2003-2008

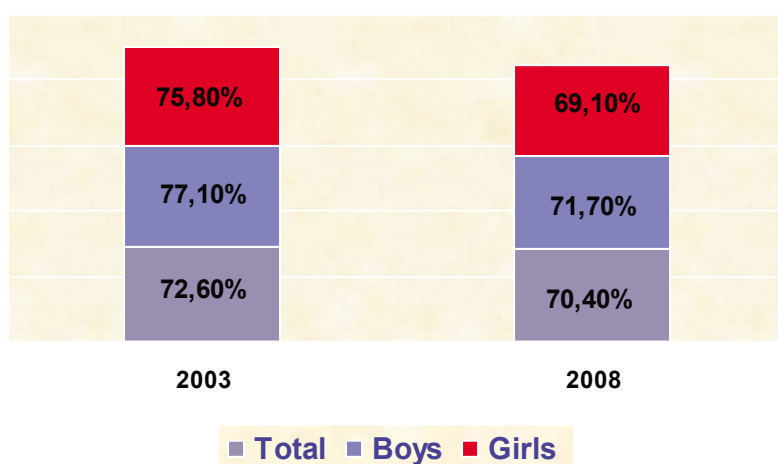
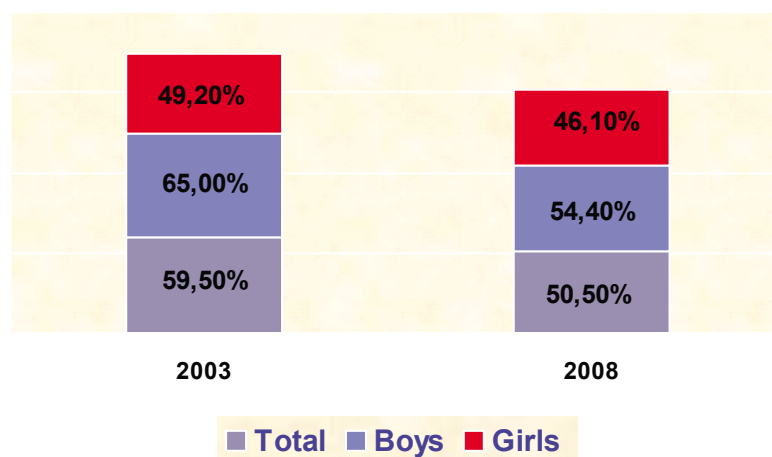


Table 5: Cessation

CESSATION	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
Current smokers who always feel like having a cigarette first thing in the morning	11.7 (6.0- 21.4)	13.5 (7.4- 23.5)	8.3 (3.0- 20.6)	NA	NA	NA
Current smokers who want to stop smoking now	59.5 (52.4- 66.2)	65.0 (51.9- 76.1)	49.2 (33.8- 64.8)	50.5 (45.4- 55.6)	54.4 (48.1- 60.6)	46.1 (39.3- 53.0)
Percent of current smokers who have not received help to stop smoking	24.7 (17.3- 33.9)	21.1 (14.4- 29.7)	31.5 (17.9- 49.2)	33.4 (28.0- 39.4)	32.4 (26.2- 39.4)	34.3 (27.2- 42.2)

Related smoking dependency, data from 2003 shows that 11.7% students feel like having a cigarette first thing in the morning, out which 13.5% boys and 8.3% girls, without statistical significance. It is evidence of decrease of percentage of current smokers who want to stop smoking, from almost 6 in 10 students (59.5%) in 2003 to 5 in 10 students (50.5%) in 2008, both in boys from 65.0% students in 2003 to 54.4% students in 2008, as also girls from 49.2% in 2003 to 46.1% in 2008, without statistical significance. Also, increase percent of current smokers who have not received help to stop smoking, from 24.7% in 2003 to 33.4% in 2008, both in boys and girls. (Table 5)

Graphic 6: Students age 13-15 want to stop smoking, Federation of Bosnia and Herzegovina 2003-2008



Graphic 7: Current smokers age 13-15 who have not received help to stop smoking, Federation of Bosnia and Herzegovina 2003-2008

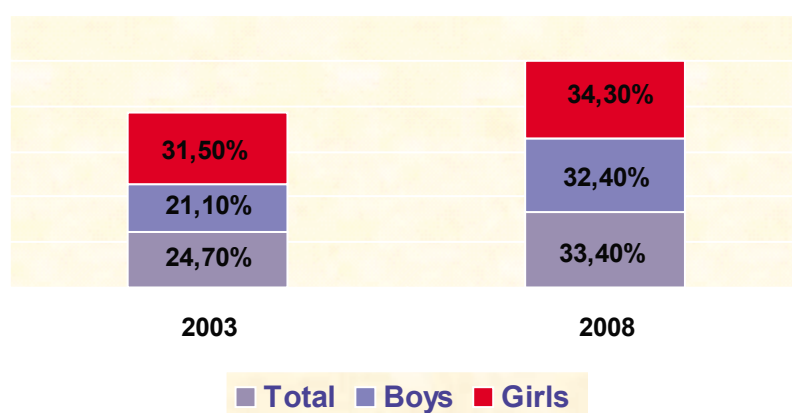


Table 6: Access

ACCESS	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
Current smokers who usually buy their cigarettes in a store were not refused purchase because of their age	91.7 (82.8- 96.2)	89.1 (75.8- 95.6)	94.7 (83.4- 98.5)	89.9 (85.3- 93.1)	86.8 (81.0- 91.0)	94.9 (87.6- 98.0)
Ever offered a "free" cigarette by a cigarette company representative	7.6 (6.2- 9.2)	9.6 (7.8- 11.8)	5.7 (4.4- 7.4)	8.2 (7.2- 9.4)	10.4 (9.2- 11.8)	6.1 (4.4- 8.3)

Survey results indicate that access to minors was decrease, with 91.7% of current smokers who usually buy their cigarettes in a store an in 2003 to 89.9% in 2008. Also, there is evidence of indirect tobacco advertisement increase; with 7.6% students ever offered" free" cigarettes in 2003 to 8.2% in 2008, both boys and girls, without statistical significance. (Table 6)

Graphic 8: Current smokers who usually buy their cigarettes in a store were not refused purchase because of their age, Federation of Bosnia and Herzegovina 2003-2008

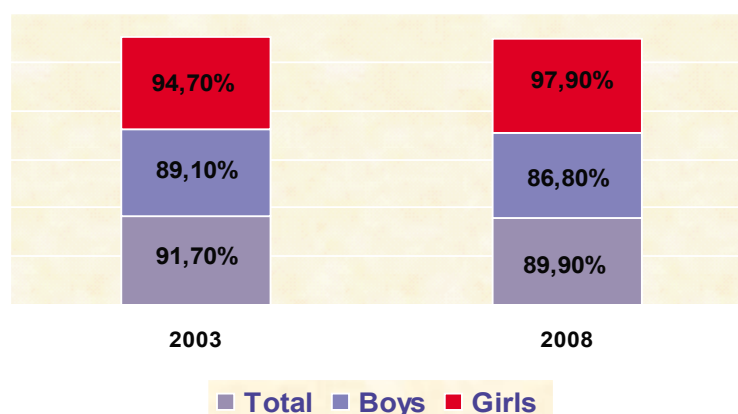


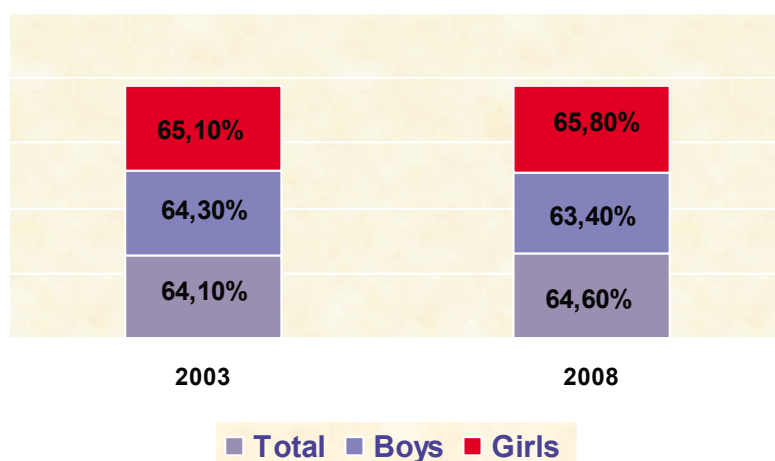
Table 7: Knowledge and attitude

Factors	2003			2008		
	Total	Boy	Girl	Total	Boy	Girl
Percent who definitely think smoke from others is harmful to them	64.1 (60.8- 67.3)	64.3 (58.0- 70.2)	65.1 (61.4- 68.6)	64.6 (62.6- 66.5)	63.4 (60.8- 65.9)	65.8 (62.9- 68.5)
Percent of never smokers who think that boys who smoke cigarettes have more friends	10.9 (7.8-15.1)	12.4 (7.9-18.7)	9.5 (6.9-13.0)	14.7 (12.8-16.9)	12.7 (9.9-16.2)	16.1 (14.3-18.2)
Percent of current smokers who think that boys who smoke cigarettes have more friends	9.6 (6.5-14.1)	11.0 (7.9-16.8)	8.2 (5.0-13.3)	22.6 (18.2-27.8)	23.3 (18.2-29.2)	20.7 (13.9-29.6)
Percent of never smokers who think that girls who smoke cigarettes have more friends	19.0 (14.3-24.8)	16.4 (10.0-25.7)	20.2 (12.0-31.8)	10.1 (8.1-12.5)	11.7 (8.7-15.6)	8.8 (7.3-10.6)
Percent of current smokers who think that girls who smoke cigarettes have more friends	22.4 (14.9-32.4)	23.3 (14.9-34.5)	22.0 (12.1-36.7)	16.6 (13.3-20.5)	17.8 (14.0-22.4)	14.7 (8.9-23.3)
Percent of never smokers who think that smoking cigarettes helps people feel more comfortable at celebrations, parties and social gatherings	26.5 (21.5-32.2)	30.9 (22.4-40.8)	22.9 (19.1-27.1)	34.2 (31.5-36.9)	35.9 (32.1-39.8)	32.8 (30.1-35.7)
Percent of current smokers who think that smoking cigarettes helps people feel more comfortable at celebrations, parties and social gatherings	41.2 (34.2-48.5)	40.7 (30.9-51.4)	41.0 (32.8-49.7)	47.3 (41.8-52.8)	47.6 (41.1-54.2)	46.9 (36.4-57.6)

Over 6 in 10 students definitely think that smoking from others is harmful to them (64.1% in 2003 and 64.65 in 2008). (Table 6)

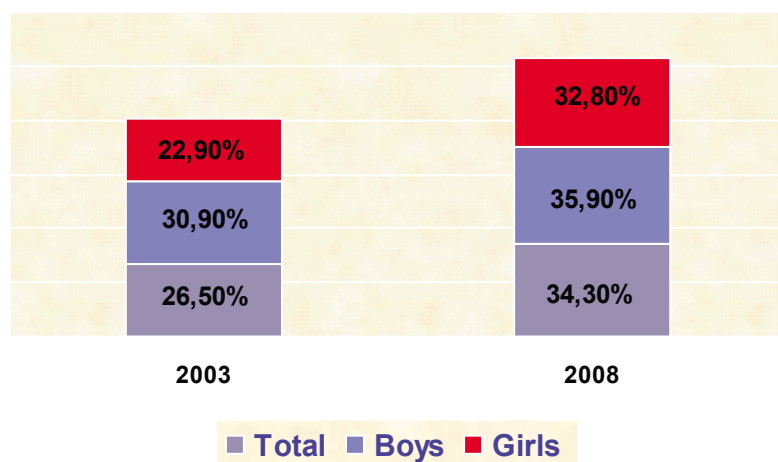
Percent of never smokers, who think that boys who smoke cigarettes have more friends, increase from 10.9% in 2003 to 14.7% in 2008 in both boys and girls, particularly in current smokers from 9.6% in 2003 to 22.6% in 2008, statistically significant in both boys and girls. Percent of never smokers, who think that girls who smoke cigarettes have more friends, decrease from 19.0% in 2003 to 10.1% in 2008 in both boys and girls, particularly in current smokers from 22.4% in 2003 to 16.6% in 2008, without statistical significance. (Table 6)

Graphic 9: Students age 13-15, who definitely think smoke from others is harmful to them, Federation of Bosnia and Herzegovina 2003-2008

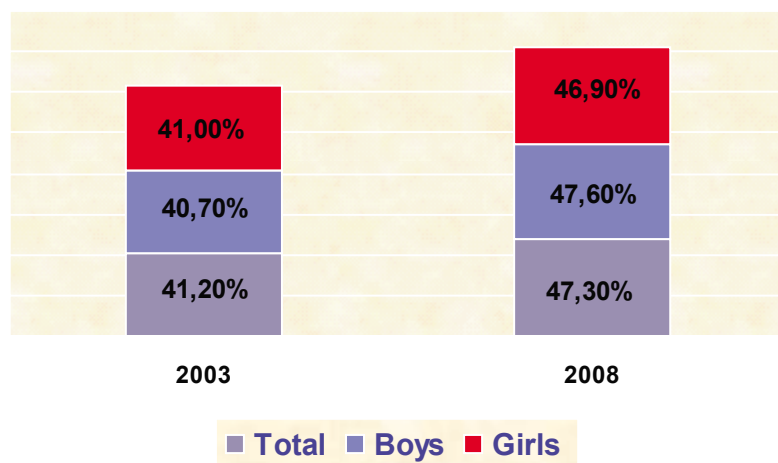


Percent of never smokers who think that smoking cigarettes helps people feel more comfortable at celebrations, parties and social gatherings increase from 26.5% in 2003 to 34.2% in 2008, with increase in both boys and statistically significant in girls. Percent of current smokers who think that smoking cigarettes helps people feel more comfortable at celebrations; parties and social gatherings increase from 41.2% in 2003 to 47.3% in 2008, with increase in both boys and girls. (Table 7)

*Graphic 10: Never smokers age 13-15 who think that smoking cigarettes helps people feel more comfortable at celebrations, parties and social gatherings, Federation of Bosnia and Herzegovina 2003-2008*



*Graphic 11: Current smokers age 13-15 who think that smoking cigarettes helps people feel more comfortable at celebrations, parties and social gatherings, Federation of Bosnia and Herzegovina 2003-2008*





## Discussion

In 2008 Federation of Bosnia and Herzegovina completed second GYTS focusing on the wide range of issues related to tobacco use in school children aged 13-15 years, exploring the knowledge, attitude and behaviour of this population group related tobacco smoking.

GYTS investigated the aspects behind the motivation to smoke and the factors that affect the tobacco-related behaviour of smokers, as a key point for the development of scientific evidence for further tobacco control policy and intervention programs, particularly from evidence based advocacy with decision makers, as long Bosnia and Herzegovina still not ratified Framework Convention of Tobacco Control (FCTC) (14, 15)

### *Prevalence*

The GYTS data show, that in the Federation of Bosnia and Herzegovina during period between two surveys (2003-2008) smoking prevalence increase from 11.9% to 14.3%, in both boys and girls.

Through GYTS data it is evidence of increasing smoking prevalence in girls, underlining that in the near future without strategic smoking prevention campaigns we can expect increase of young girls smokers. The results of the GYTS indicate that girl students are just more likely to initiate smoking than boy students. More than one third (36.6%) of young smokers have started to smoke before the age of 10, which is significant as long most youths who experimented with smoking at a very young age later became regular smokers and could not stop.

### *Environmental tobacco smoke*

Exposure to second – hand smoke is still high for all students in the Federation of Bosnia and Herzegovina, demanding for serious public health and legislative measures. In 2008, over eight in ten students (85.0%) was exposed to tobacco smoke in public places and almost eight in ten is exposed to smoke in their homes (79.0%) which is very high comparing to data from WHO European Tobacco Control Report 2007. Regarding preventive intervention aimed to significance of “role models” in school children, it is evidence for decrease of percentage of students with one or more parents smoke, from

68.8% in 2003 to 63.8% in 2008, but increase of best friends smoking from 13.5% in 2003 to 16.0% in 2008, in both boys and girls.

Over six in ten students (63.4%) consider ETS harmful to their health as over eight in ten students is in favour of banning smoking in public places, which could be very significant fact for advocacy aimed to improve national tobacco control legislation and enforcement of smoking ban in public places.

### ***School curriculum***

In the Federation of Bosnia and Herzegovina there have been not significant changes in involvement of smoking prevention in school curriculum, as over six in ten students (65.8% in 2003 and 66.2% in 2008) of students report being taught in school during the past year about the dangers of smoking, which indicate more efforts should be focus in development of intersectorial collaboration between health and education sector regarding school children education in smoking prevention, health consequences and cessation.

### ***Exposure to media and advertising***

GYTS results confirmed the fact that tobacco industry devotes enormous resources to advertise and promote cigarettes in the Federation of Bosnia and Herzegovina, which have to be one of priority for tobacco control legislation enforcement regarding total ban of tobacco advertisement.

There have been some changes in data regarding exposure to anti-smoking messages as also tobacco advertisement in Medias, with decrease in exposure to anti-smoking messages as also decrease in exposure to tobacco advertisement in different media (billboards, newspapers and magazines). Regarding indirect tobacco advertisement, less than 3 in ten students (20.5% in 2003 and 20.6% in 2008) have something with a cigarette brand logo. GYTS data shows that full ban on direct advertising in the Federation of Bosnia and Herzegovina, contained in Tobacco control Law from 1995, which covers most part of direct but partially indirect advertisement is not applied fully and demand more enforcement aimed to total ban of tobacco advertisement, promotion and sponsorship in line with FCTC recommendations.

### ***Cessation***

The survey data show that more than half of current smoking students want to stop smoking, but it is evidence for some decrease from 59.5% in 2003 to 50.5% in 2008 which demand some strategic cessation approach and development collaboration between health and education, in aimed to prevent possible increase of smoking prevalence in future.

### ***Access and Availability***

The GYTS data show that one of the most alarming factors in the Federation of Bosnia and Herzegovina is high access and availability of tobacco products to minors, regarding places where they could buy their cigarettes as also prices, which clearly demonstrates that existing tobacco control laws and regulations in the Federation of Bosnia and Herzegovina have to be improved in line with Framework Convention of Tobacco Control (FCTC).

### ***Knowledge and attitudes***

The GYTS results shows significant differences between never smokers and current smokers which underline a need for comprehensive smoking prevention campaign for youth oriented to “renormalisation” or changes in social image of smoking.

## Recommendations

Through available data collected in GYTS 2008 survey, there are defined some priority actions that have to be taken in the Federation of BiH, such as:

### ➤ **Smoking prevention and cessation programs**

The GYTS data show that the smoking habit is well established in young people as more than one-third ever smokers started to smoke before the age of 10 years. Hence, there should be a greater focus on effective smoking prevention programs in 7, 8 and 9 grades, as well as in earlier grades. The design and implementation of smoking prevention and cessation programs have to start at a very early age and should be part of the regular school curriculum. Significant effort could be made by appropriate nation-wide anti-smoking media campaigns, which should be implemented in collaboration with public health institutes, Ministries of Health and Education, schools and the media.

### ➤ **Reducing of ETS exposure**

Given that almost all students are exposed at least once every week to ETS in their home as well as in other public places, there is an urgent need for advocacy aimed at more effective law enforcement about existing smoking ban in all public places, as well as a campaign to increase awareness about the health implications of ETS for children and youth, aimed at parents, teachers and medical professionals.

### ➤ **Reducing of pro-tobacco advertisement**

Almost all students are daily exposed to all different kinds of pro-tobacco advertisement. This requires an urgent response, being greater advocacy aimed to more effective law enforcement with respect to the existing ban of all pro-tobacco advertising, and a complete ban on the promotion and offering of free cigarettes by tobacco companies to minors.

### ➤ **Reducing access**

Given that the data show that almost two-thirds of current smoker respondents purchased cigarettes in a store and were not refused because of their age, there is an urgent need to modify the ban of the sale of tobacco products to minors under age 18 years into existing law of tobacco control in the Federation of BiH, along with a proposal to increase the current low prices of tobacco products.

Many studies and reports clearly show that the availability of cigarettes influence on smoking prevalence in youth. The Federation of Bosnia and Herzegovina has one of the lowest cigarette prices in SEE countries. Increasing the price of tobacco through higher taxes is the single most effective way to decrease consumption and encourage tobacco users to quit. A 70% increase in the price of tobacco could prevent up to a quarter of all smoking – related deaths worldwide. A tax increase also directly benefits governments through increased revenues, which can be used for tobacco control and other important health and social programmes.

### ➤ **Increasing public awareness**

More effective advocacy and education about smoking prevention and cessation aimed at young people is needed. The entire community should participate in its development and be involved in a nation-wide anti-smoking coalition through debates and media campaigns involving public figures from culture, sport, music, health, education, and NGOs.

## References

1. Mpower a package to reverse the tobacco epidemic, World Health Organization 2003
2. The European Report on Tobacco Control Policy, WHO European Ministerial Conference for a Tobacco- free Europe, WHO Regional Office for Europe Copenhagen 2002
3. World Health Organization, European data base on Tobacco Control, <http://cisid.who.dk.tobacco>
4. Non-communicable disease risk factor survey in the Federation of B&H 2002
5. Global Youth Tobacco Survey GYTS in the Federation of Bosnia and Herzegovina
6. Global Health Professional Survey GHPS in the Federation of Bosnia and Herzegovina, 2005,2006
7. Report of health status of the population and health system in the Federation of Bosnia and Herzegovina 2007, Federal Public Health Institute 2008
8. The Law on limited use of tobacco products (Official Gazette of the FBiH, no. 6/98, 35/98 and 11/99)
9. Tobacco Control Strategy in the Federation of Bosnia and Herzegovina, draft document, FMoH and Federal PHI, 2003
10. Tobacco Control in the SEE countries, WHO Regional office Copenhagen 2008
11. Tobacco Control Report, World Health Organization, Regional Office for Europe Copenhagen 2007
12. European Strategy for Tobacco Control, EUR/RC52/11 + EUR/RC52/Conf. Doc./8, WHO Regional Office Copenhagen 2002
13. Centre for Disease Control and Prevention. Global Youth Tobacco Survey, available on: <http://www.cdc.gov/tobacco/global/gyts/GYTS-intro-htm>. Accessed 2003
14. Policy Recommendations for Smoking Cessation and Treatment of Tobacco Dependence, World Health Organization Geneva 2003
15. Framework Convention on Tobacco Control, WHO Regional office Geneva 2003

