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# Tobacco Control in Turkey

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Story of commitment  
and leadership

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Organization**

REGIONAL OFFICE FOR **Europe**

# **Tobacco Control in Turkey**

## **Story of commitment and leadership**

By: Nazmi Bilir, Hilal Özcebe, Toker Ergüder and Kristina Mauer-Stender

# Abstract



Tobacco control activities in Turkey have been highly effective. The first anti-tobacco law was adopted in 1996 (Law No. 4207), ratification of the WHO Framework Convention on Tobacco Control followed in 2004, and in 2008 a second law banned tobacco-smoking in all public places, including hospitality venues (Law No. 5727). Together with the adoption of the WHO MPOWER package, these measures are making Turkey largely smoke-free. Political stability and the commitment of the government were important in the development of Law No. 5727. Nongovernmental organizations, under the umbrella of the National Coalition on Tobacco and Health, played a remarkable role by participating in the discussions in the parliamentary commissions and providing scientific evidence. After Law No. 4207 was enacted, these organizations organized meetings with representatives of the hospitality industry and the general public to encourage their compliance. Successful implementation of Law No. 4207 and its 2008 amendment has led to a decrease in tobacco sales, fewer complaints by people in general and workers in hospitality venues in particular, and an improvement in indoor air quality.

## Keywords

SMOKING – prevention and control  
TOBACCO – legislation  
HEALTH POLICY  
PROGRAM EVALUATION  
TURKEY

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# Contents

|  | Page      |
|--|-----------|
| <b>ACKNOWLEDGEMENTS</b> .....  | <b>4</b>  |
| <b>FOREWORD</b> .....  | <b>5</b>  |
| <b>PREFACE</b> .....   | <b>7</b>  |
| <b>BACKGROUND</b> .....  | <b>8</b>  |
| <i>Production and sale of tobacco</i> .....  | 9         |
| <i>Prevalence studies</i> .....  | 11        |
| <i>Health consequences of increased tobacco use</i> .....                          | 17        |
| <i>Economic burden of tobacco use</i> .....  | 19        |
| <b>Development of tobacco control activities and legislation</b> .....             | <b>21</b> |
| <i>First anti-tobacco law in 1996 and nongovernmental organizations</i> .....      | 21        |
| <i>Establishment of the Tobacco Regulatory Authority, 2002</i> .....               | 22        |
| <i>Ratification of the Framework Convention on Tobacco Control, 2004</i> .....     | 23        |
| <i>National tobacco control programme and action plan, 2006</i> .....              | 23        |
| <i>Amendment of Law No. 4207 through Law No. 5727, 2008</i> .....                  | 24        |
| <i>Price and tax policy</i> .....  | 26        |
| <b>Implementation of measures in line with the WHO FCTC</b> .....                  | <b>30</b> |
| <i>Protection from tobacco smoke</i> .....   | 34        |
| <i>Offers of help to stop using tobacco</i> .....                                  | 35        |
| <i>Warnings about the dangers of tobacco</i> .....                                 | 35        |
| <i>Enforcement of bans on tobacco advertising, promotion and sponsorship</i> ..... | 35        |
| <i>Higher taxes on tobacco</i> .....   | 37        |
| <i>Monitoring of tobacco use and prevention policies</i> .....                     | 37        |
| <b>Impact of tobacco control measures</b> .....                                    | <b>38</b> |
| <i>Tobacco use</i> .....   | 38        |
| <i>Smoke-free status</i> .....   | 45        |
| <i>Impact on health</i> .....  | 53        |
| <b>Keys to success</b> .....   | <b>56</b> |
| <i>Strong nongovernmental organizations</i> .....                                  | 56        |
| <i>Strong mass media campaigns</i> .....   | 57        |
| <i>Whole-government approach and political stability</i> .....                     | 57        |
| <b>Conclusions</b> .....   | <b>59</b> |
| <i>Smoking on private premises</i> .....   | 59        |
| <i>Smoking during pregnancy and breastfeeding</i> .....                            | 59        |
| <i>TAPDK and point of sale regulation</i> .....                                    | 59        |
| <i>Inspections and violations</i> .....  | 59        |
| <i>Monitoring of the effectiveness of tobacco control measures</i> .....           | 60        |
| <b>References</b> .....  | <b>61</b> |
| <b>Annex 1. WHO's contribution to tobacco control in Turkey</b> .....              | <b>66</b> |

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# Foreword



Tobacco use is the leading preventable health issue worldwide. Nearly one third of the world adult population are smokers. Every year, diseases associated with tobacco use claim 5 million lives in the world, including 100 000 in Turkey.

The dramatic consequences of tobacco use have long been recognized globally. Recognition alone will not, however, suffice in tobacco control. In fact, tobacco control is not a recent concept in our country. What is recent is the political will which is driving the determined fight against tobacco, led by the personal commitment and unprecedented support of our Prime Minister. Indeed, his efforts were applauded by the WHO

Director-General's 2010 Special Recognition Award for Contribution to Global Tobacco Control.

Tobacco control is not an easy task. Add to this the challenge of seeking transformation in a country which, until recently, had a sadly prominent ranking in the chart of top smoking countries. Yet, we have made it. But how?

First, we developed the national tobacco control programme. This was followed by the five-year action plan for the implementation of the programme, announced by the Prime Minister. The main goal was to protect our children and nonsmoking citizens from the harms of passive exposure. The next goal was to “save smoking citizens”.

It goes without saying that we have engaged and closely collaborated with scientists and civil society organizations from the very beginning. I am thankful to them for their inputs at all stages.

Our working strategy has been guided by the WHO MPOWER policy package. We rapidly completed legislation in keeping with the package. However, it was obvious that legislation alone would not be enough: we needed public support in such a challenging effort. Thus, we launched a national media campaign to inform and sensitize our citizens. Professional perception management is crucial in such campaigns, and we have worked with professionals in this area. The campaign activities which have helped us to get the support of our citizens have been acknowledged and appreciated by communication experts.

We also knew that effective enforcement of tobacco control measures was necessary, with robust implementation at local level. To this end, we set up a provincial tobacco control board in every province. The membership of these boards consists of representatives of relevant public institutions, civil society organizations and the local media. The boards have facilitated both the gathering of public support and supervision of the process.

We have carried out a comprehensive overarching transformation programme in health over the past nine years, strengthening our health services, especially preventive health care. We have launched and implemented extensive activities for health protection as part of our health promotion approach. The strategy we have followed in tobacco control is the output of this strategic thinking.

This report from the WHO Regional Office for Europe is a guide which other countries can use in the fight against the tobacco epidemic. For us, the report symbolizes the global recognition of our tobacco control efforts in Turkey. I am grateful to all health workers and civil society organizations who have made this progress in tobacco control in Turkey possible. I also extend my thanks to all the contributors to this report.

Professor Recep Akdağ  
Minister of Health Republic of Turkey

# Foreword



Turkey faces a serious tobacco epidemic. Nearly 16 million of the nation's adults are smokers. Smoking is the most important public health challenge and preventable cause of mortality in the country. More than 100 000 people die every year as a consequence of smoking, a number that is estimated to rise, if nothing is done, to 240 000 by 2030. Beyond health hazards, the economic burden of tobacco use is equally enormous. Smokers spend nearly US\$ 20 billion annually on tobacco products – four times the annual budget of the Ministry of Health.

But there is promising news. Turkey, a country with a high prevalence of smoking and important tobacco production, has taken bold and courageous steps in tobacco control in recent years. Driven largely by Government leadership and policy initiatives, Turkey is now considered a model country in tobacco control at both regional and global level, emerging as a leader in Europe in terms of policy measures such as taxation and the introduction of smoke-free indoor public places.

Turkey was one of the first countries in the world to ratify the WHO Framework Convention on Tobacco Control in 2004. The Tobacco Control Law was substantially amended in 2008 and is now one of the most advanced tobacco control laws in the world. Effective enforcement of this law is ensured throughout the country.

The success of Turkey is being closely observed by many countries in the WHO European Region and worldwide. To ensure the continuation of this success, a continuous firm commitment by all stakeholders under the clear leadership of the Government is crucial. We believe that the exemplary partnership of the Ministry of Health and the WHO Regional Office for Europe will help us in overcoming the global tobacco epidemic that threatens the lives of hundreds of millions of men, women and children during this century. The implementation of a comprehensive tobacco control law in Turkey has already saved thousands of lives and encouraged countries around the world to follow the Turkish example.

I would like to use this opportunity to extend my gratitude again to the Prime Minister, Mr Recep Tayyip Erdoğan, and the Minister of Health, Professor Recep Akdag, for their remarkable leadership and support in these achievements. I believe that their ongoing support is crucial in fighting the global tobacco epidemic, and I hope that our continuing and active collaboration with the Turkish Government will contribute to stopping the expansion, and even beginning to roll back, the tobacco epidemic in the world.

This report is an important step in our tobacco control activities. It is a strong witness of how to achieve success in tobacco control and how much more countries need to do. I hope that it will be useful, not only for decision-makers in Turkey to remain committed, but for all countries where there is a strong and dedicated commitment to tobacco control and saving the lives of the citizens from the tobacco epidemic.

Zsuzsanna Jakab  
WHO Regional Director for Europe

# Preface



This report marks yet another milestone in Turkey's strong commitment to tobacco control and the fulfilment of its obligations as a signatory of the WHO Framework Convention on Tobacco Control (WHO FCTC).

The excellence of the Turkish example lies in the whole-government approach to tobacco control, led by the Prime Minister. Driven largely by leadership from the Minister of Health and policy initiatives, a sophisticated system of intersectoral cooperation has been established in coordination with the Parliamentary Health Commission to fight the tobacco epidemic.

The tobacco control work in Turkey is an excellent example of teamwork and complementarities between Turkey governmental authorities, WHO headquarters, the Regional Office for Europe and the Country Office for Turkey, as well as established solid partnerships with key national and international stakeholders, including the Bloomberg Initiative to Reduce Tobacco Use and consortium partners, the European Union and others.

Turkey has made great achievements in tobacco control, particularly as regards smoke-free environments. Since June 2007, WHO has provided technical assistance for tobacco control in Turkey as part of the Bloomberg Initiative to Reduce Tobacco Use. This support has been delivered through the Ministry of Health and other government authorities, including the Parliamentary Health Commission and a number of nongovernmental organizations, with a view to developing and implementing evidence-based tobacco control activities in line with various aspects of the WHO FCTC.

These achievements in Turkey and excellent cooperation with WHO have resulted not only in awards from WHO to the Prime Minister of the Republic of Turkey, Mr Recep Tayyip Erdoğan in 2010 and to the Minister of Health in 2008, Professor Recep Akdağ, but also, on the Minister of Health's award 2012 to the WHO Country Office in Turkey in recognition of the tobacco control activities of the Ministry of Health.

In 2010 and 2011, high-level delegations from Azerbaijan, Bangladesh, Egypt, Hungary, Thailand, Ukraine and Kosovo (in accordance with Security Council resolution 1244 (1999)) visited Turkey on study tours organized jointly by the WHO Country Office in Turkey and tobacco lead authorities, to learn more about different aspects of the overall tobacco control programme and its success.

The WHO Country Office in Turkey is grateful for the excellent collaboration with the Ministry of Health and tobacco lead authorities and fruitful support from the Bloomberg Philanthropies and tobacco control partners and looks forward to continuing to work together to disseminate achievements of Turkey in other countries and curb the global tobacco epidemic.

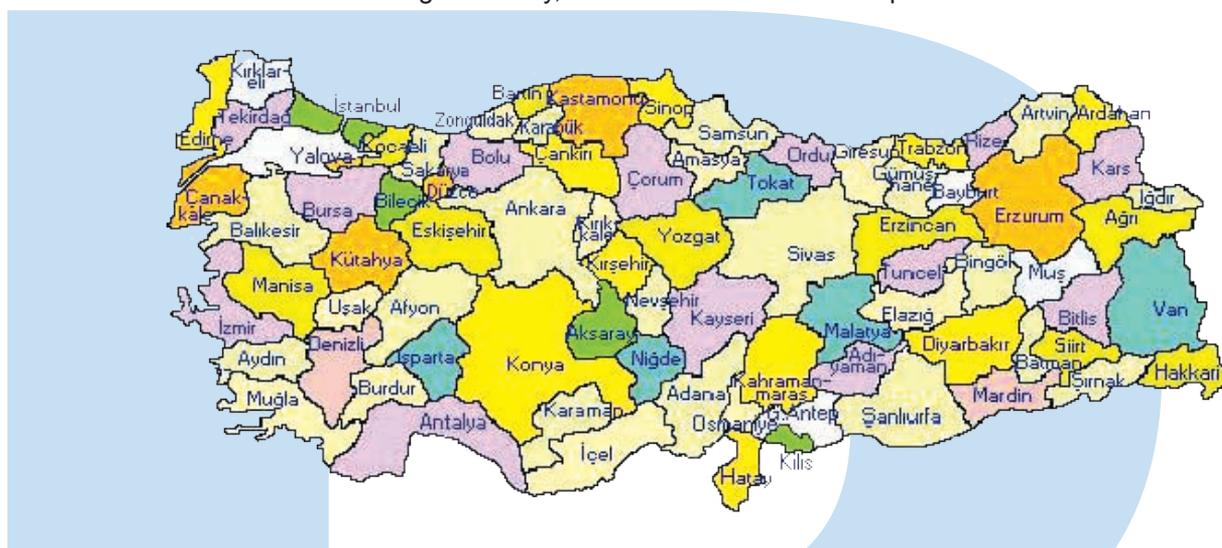
Dr Maria Cristina Profili  
World Health Organization Representative in Turkey

# BACKGROUND

Turkey lies between two continents, the larger part (Anatolia) in Asia and the smaller part in south-eastern Europe. Since the establishment of the current democratic, secular, unitary and constitutional republic in 1923, the country has become increasingly integrated with the west while continuing to foster relations with the eastern world. Turkey joined the United Nations in 1945 and was one of the signatory countries to the charter establishing the World Health Organization (WHO) (1).

The country is divided into 7 geographical divisions, 81 provinces and 892 districts (Fig. 1). In 2010, the population was 73 million (1).

Fig. 1. Turkey, administrative divisions: 81 provinces



Tobacco use has been common in Turkey, particularly among the male population. Traditionally, smoking has been regarded as male behaviour, but, it has also been highly prevalent among women, particularly in urban areas. A study in 1988 indicated that at that time nearly half (44%) of the adults smoked (62% of males, 25% of females) (2). Since there was no restriction on tobacco use, people could smoke everywhere, including on private premises and in all public places (even health and educational institutions), and passive exposure to tobacco smoke was very high. Studies of exposure to second-hand smoke are, however, of relatively recent interest in Turkey. In a study in 1995, about 90% of the smokers in different occupational groups indicated that they smoked at home, 60–95% smoked at work and 50–85% smoked in front of their children (1,3). Other studies during the late 1990s and 2000s revealed high levels of exposure to second-hand smoke (4–7). The Global Adult Tobacco Survey (GATS) in 2008 found that more than half (55.9%) of the respondents were exposed to tobacco smoke in restaurants, including 50.2% of non-smokers (8). Although a smoking ban had been introduced in 1996, 16.5% of the respondents were still being exposed to tobacco smoke on public transport and 6% in health care facilities. Smoking was allowed in 60% of homes, and in 41% of homes someone smoked every day (8).

## Production and sale of tobacco

Turkey is a tobacco-producing country. Before the 1990s its share of total world production was 4%. By 2004 this figure had dropped to 2.1%, and it now stands at 1.7% (1).

Until the 1980s, the state controlled the farming, production, pricing and selling of tobacco and tobacco products. The state-owned tobacco monopoly, TEKEL, had a history going back to Ottoman times, but following its privatization in the 1980s, multinational tobacco companies started operating in Turkey. The privatization process started in 1984, when the government permitted foreign tobacco companies to import their products. At first, TEKEL controlled the import, pricing and distribution of foreign cigarettes, until in 1986 another law was enacted allowing multinational tobacco companies to establish their own import and distribution networks. As a consequence, aggressive tobacco advertising appeared and tobacco consumption increased rapidly, although domestic production diminished or was even eliminated in some regions as a result of the activities of foreign tobacco companies. Between 1998 and 2007, the number of tobacco producers fell by approximately 70% and the area under tobacco production diminished by 50% (Table 1) (9).

Table 1. Tobacco production, producers, production areas and output, 1998–2007

| Year | No. of producers (000s) | Production area (000 ha) | Output (000 tons) |
|------|-------------------------|--------------------------|-------------------|
| 1998 | 622                     | 278                      | 202               |
| 1999 | 568                     | 270                      | 244               |
| 2000 | 583                     | 237                      | 204               |
| 2001 | 478                     | 199                      | 150               |
| 2002 | 405                     | 199                      | 160               |
| 2003 | 318                     | 184                      | 112               |
| 2004 | 282                     | 193                      | 134               |
| 2005 | 252                     | 185                      | 135               |
| 2006 | 215                     | 146                      | 98                |
| 2007 | 207                     | 145                      | 80                |

Source: Bilir N et al (1).

In 1991, a further law allowed foreign tobacco companies to invest in Turkey and to establish their own production facilities. The first joint venture was PhilSA, between Philip Morris and Sabancı Holding. This led to a decline in the power and market share of TEKEL and, by 2005, to PhilSA taking over TEKEL's leading position in the tobacco market (Table 2). Before the 1980s, TEKEL was the tobacco market leader; by 1995 its share had fallen to 82%, then 70% in 1997 and 31% in 2007. When TEKEL was taken over by British American Tobacco in 2008, it was eliminated from the market (1).

In 1988, Virginia and Burley tobaccos were incorporated in blended cigarettes in Turkey. Since then, the consumption of both blended cigarettes and cigarettes produced with wholly oriental tobacco has shown negative trends. Concurrently, the import of tobacco rose from 610 tons in 1988 to approximately 42 000 tons in 1998 and 67 000 tons in 2007 (9).

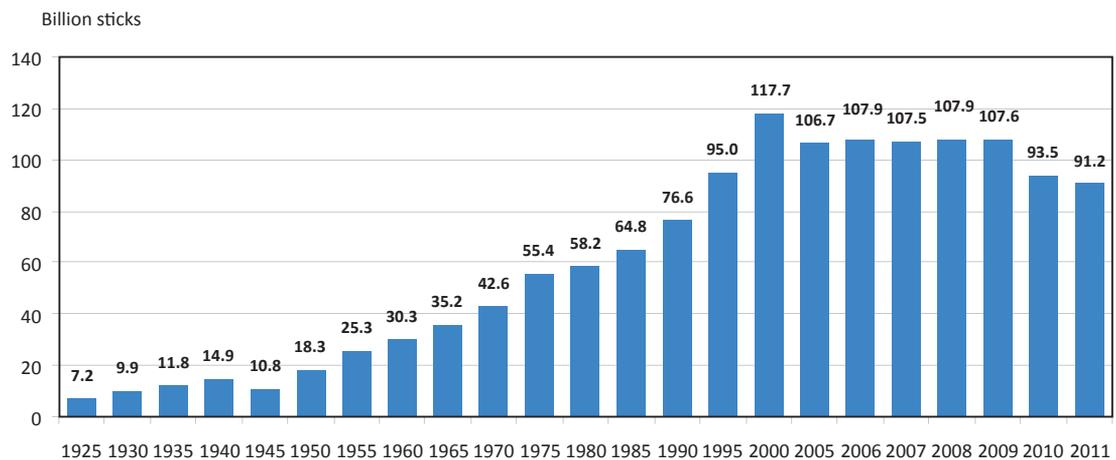
Table 2. Market shares of major tobacco producers, 2001–2007 (%)

| Tobacco companies        | 2001   | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| TEKEL                    | 68.80  | 60.99  | 54.26  | 46.50  | 37.99  | 37.67  | 30.49  |
| PhilSA                   | 21.32  | 27.45  | 33.51  | 38.85  | 42.11  | 40.02  | 39.70  |
| JTI                      | 9.88   | 11.56  | 10.69  | 10.41  | 8.52   | 10.21  | 13.24  |
| British American Tobacco |        |        | 1.54   | 4.24   | 8.16   | 7.00   | 7.07   |
| European                 |        |        |        |        | 2.46   | 3.44   | 6.83   |
| Imperial                 |        |        |        |        | 0.76   | 1.66   | 2.31   |
| Gallaher                 |        |        |        |        |        |        | 0.37   |
| Total                    | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Bilir N et al (1).

Cigarette sales more than quintupled between 1960 and 2000, from around 20 billion sticks in 1960 to more than 100 billion in 2000 (9). This increase is considerably more than the population increase during the same period. Between 1960 and 2000, the number of cigarettes sold increased by more than five times whereas the population increased by only 2.5 times, from 27.8 million to 67.8 million. The highest sales figure was 114.4 billion sticks in 1999 (Fig. 2).

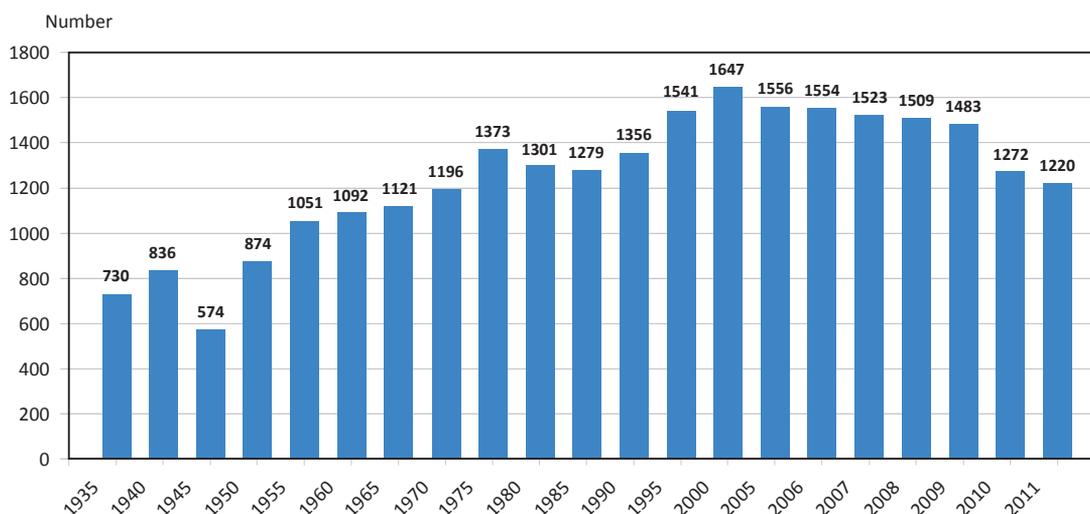
Fig. 2. Cigarette sales 1925–2011v (billion sticks)



Source: Bilir N et al (1), Tobacco and Alcohol Market Regulatory Authority (TAPDK) official data (9).

The main factor in this increase was the free advertising of tobacco products following the arrival of the multinational tobacco companies, combined with an increase in the number of tobacco retailers as recently as during the 2000s. Retailers are licensed by the Tobacco and Alcohol Market Regulatory Authority (TAPDK), which was established in 2002. The number of TAPDK-licensed tobacco retailers increased from 181 000 in 2003 to 189 000 in 2009, since when there has been a slight decrease to 187 000 in 2010 and 173 000 by mid-2011(9). Based on cigarette sales data, annual per capita cigarette consumption appears to have gradually increased until 2000 and then decreased. Between 1935 and 2000, it increased by 2.26 times before falling by 22.8% from 2000 to 2011 (Fig. 3) (9).

Fig. 3. Annual per capita cigarette consumption, 1935–2011



Source: TAPDK official data (9).

## Prevalence studies

Although smoking prevalence has fallen during the last 10 years, it is still too high. Turkey is among the top 10 countries where tobacco use is most common. There are many studies on smoking prevalence among various groups. The first countrywide prevalence study (the PIAR study), carried out by the Ministry of Health in 1988, found that the prevalence of smoking was 44% (males: 62%, females: 25%) among those aged 15+ years (2).

Following this survey, a large number of studies have been carried out among various interest groups. In 1995, a survey in Ankara targeting some specific role-model groups found that 50.8% of teachers, 43.9% of physicians and 34.9% of sportsmen smoked (3). In 1998 and 1999, two countrywide surveys covering a total of 12 500 people showed that 24.8% to 74.3% of the people in different occupations smoked. The lowest rates were among religious people and the highest were among drivers (Table 3) (3). Prevalence was higher among males in all groups.

Table 3. Adult smoking prevalence, selected groups, 1998–1999

| Year | Participants      | Gender       | Age (years) | No. of participants | Prevalence (%) |
|------|-------------------|--------------|-------------|---------------------|----------------|
| 1998 | Teachers          | Male, female | 34.6 ± 8.1  | 907                 | 47.3           |
| 1999 | Teachers          | Male, female | 35.1 ± 7.9  | 1039                | 48.6           |
| 1998 | Policemen         | Male         | 31.9 ± 7.4  | 618                 | 60.8           |
| 1999 | Policemen         | Male         | 31.2 ± 7.3  | 716                 | 64.7           |
| 1998 | Drivers           | Male         | 38.7 ± 9.3  | 265                 | 70.1           |
| 1999 | Drivers           | Male         | 36.9 ± 9.1  | 338                 | 74.3           |
| 1998 | Religious leaders | Male         | 37.8 ± 9.8  | 242                 | 24.8           |
| 1999 | Religious leaders | Male         | 38.6 ± 10.0 | 279                 | 25.1           |

Source: Bilir N et al (1).

Other studies carried out in various cities have also shown that smoking is more common among males (1). In a study in 2005, the prevalence of smoking found in an adult group in İzmir was 38.2%, much lower than figures found in earlier studies, indicating that the rates of

smoking have shown a decreasing trend during recent years. Similarly, figures for teachers and women in Mardin and Ankara have been lower than previous figures (Table 4).

Table 4. Adult smoking prevalence in five cities, 2002–2006

| Year | Place   | Participants, gender              | Age       | No. of participants      | Prevalence (%)              |
|------|---------|-----------------------------------|-----------|--------------------------|-----------------------------|
| 2002 | Ankara  | Women                             | 30+ years | 200                      | 13.5                        |
| 2005 | İzmir   | General population                | 15+ years | 455                      | 38.2                        |
| 2005 | Mardin  | Women                             | 15+ years | 1471                     | 22.9                        |
| 2006 | Trabzon | Employees male, female            | Adults    | Male: 844<br>Female: 362 | Male: 47.2<br>Female : 17.1 |
| 2006 | Konya   | High school teachers male, female |           | 213                      | 38.0                        |

Source: Bilir N et al (1).

Smoking was not banned at hospitality venues until 2009, and exposure to second-hand smoke was common in such places. A study in 2002 to evaluate the level of such exposure in coffee-houses in Ankara found that the average level of carbon monoxide in the breath exhaled by non-smokers outside coffee-houses was 3.5 ppm, as against 8.5 ppm inside them (10).

### **Global Adult Tobacco Survey (GATS), 2008**

Turkey was one of the first countries to complete the Global Adult Tobacco Survey (GATS) in 2008 (8) and will repeat in 2012. All settlements with a population above 200 were covered in the sampling procedure, which included a total of 9030 adults (4269 men and 4761 women) aged 15+ years. According to the Survey's results, one in three adults (31.2%) currently smoked. Smoking prevalence was higher among males (47.9%) than among females (15.2%). Based on these prevalence figures, it was calculated that almost 16 million adults (12 026 000 men and 3 954 000 women) currently smoked. When former smokers (15.9%) were taken into account, only half (52.8%) of the adults had never smoked (Table 5) (8).

The prevalence of smoking increased in line with the level of education until high school, then fell among both male and female university graduates (Fig. 4). The lowest level was found among women living in rural settlements who had not graduated from school, and the highest levels were observed among high-school graduates of both sexes (Table 6).

Smoking prevalence was highest in the group aged 25–44 years and lowest among both men and women aged over 65 years. In the younger group, over half (58.2%) of the men and one in every five (21.5%) women smoked, whereas in the older group, 20.5% of men and only 2.4% of women smoked. Most of the current smokers smoked daily (87.8%), usually manufactured cigarettes. Smoking prevalence in the group aged 15+ years was 31.2%; of these, 30.1% smoked manufactured cigarettes.

Table 5. Adults aged 15+ years by smoking status and gender, 2008 (%)

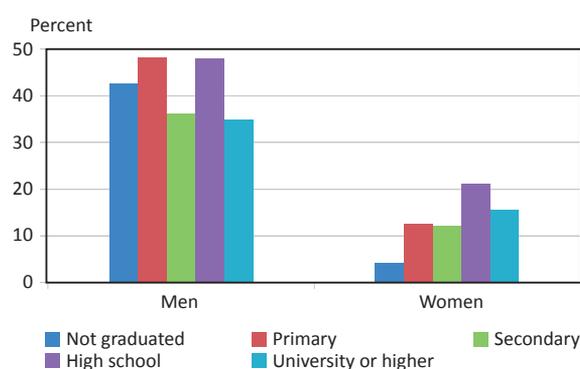
| Smoking status                    | Overall <sup>a</sup> | Men <sup>a</sup> | Women <sup>a</sup> |
|-----------------------------------|----------------------|------------------|--------------------|
| Current smoker <sup>b</sup>       | 31.2 (29.9–32.5)     | 47.9 (45.8–50.0) | 15.2 (13.9–16.4)   |
| Daily smoker                      | 27.4 (26.2–28.7)     | 43.8 (41.8–45.9) | 11.6 (10.4–12.7)   |
| Occasional smoker                 | 3.8 (3.3–4.3)        | 4.1 (3.4–4.8)    | 3.6 (2.9–4.3)      |
| Occasional smoker, formerly daily | 1.8 (1.4–2.1)        | 2.1 (1.6–2.6)    | 1.5 (1.0–1.9)      |
| Occasional smoker, never daily    | 2.0 (1.7–2.4)        | 2.0 (1.4–2.5)    | 2.1 (1.6–2.7)      |
| Former smoker                     | 15.9 (15.0–16.9)     | 22.1 (20.6–23.6) | 10.0 (8.8–11.2)    |
| Former daily smoker               | 10.5 (9.8–11.2)      | 17.2 (15.9–18.5) | 4.1 (3.4–4.7)      |
| Former occasional smoker          | 5.4 (4.7–6.1)        | 4.9 (4.1–5.8)    | 5.9 (4.9–6.9)      |
| Never smoked                      | 52.8 (51.5–54.2)     | 30.0 (28.1–31.9) | 74.8 (73.1–76.6)   |

<sup>a</sup>95% CI.

<sup>b</sup>Current use includes both daily and occasional (less than daily) use.

Source: Ministry of Health (8).

Fig. 4. Smoking status in people aged 15+ years who smoked in 2008, by level of education (%)



Source: Ministry of Health (8).

Table 6. Current tobacco smokers aged 15+ years, by education, area of residence and gender, 2008 (%)

| Gender, area of residence | Education level  |                  |                  |                  |                                   |
|---------------------------|------------------|------------------|------------------|------------------|-----------------------------------|
|                           | Not graduated    | Primary          | Secondary        | High school      | University or higher <sup>a</sup> |
| Men                       |                  |                  |                  |                  |                                   |
| Urban                     | 46.8 (34.7–58.8) | 51.5 (47.3–55.7) | 42.2 (36.2–48.1) | 52.5 (47.5–57.6) | 38.9 (33.1–44.8)                  |
| Rural                     | 45.4 (38.1–52.7) | 51.5 (47.5–55.5) | 43.3 (35.1–51.5) | 47.9 (40.3–55.5) | 41.4 (26.6–56.3)                  |
| Women                     |                  |                  |                  |                  |                                   |
| Urban                     | 8.4 (4.9–11.8)   | 20.0 (17.2–22.8) | 17.0 (12.6–21.4) | 27.4 (22.5–32.3) | 20.3 (15.3–25.3)                  |
| Rural                     | 5.3 (3.2–7.3)    | 8.1 (5.8–10.4)   | 6.7 (1.8–11.7)   | 11.4 (5.9–17.0)  | 19.7 (8.2–31.1)                   |

<sup>a</sup> Including college or faculty, master's degree or doctorate.

Source: Ministry of Health (8).

More people living in rural areas (23.8%) started to smoke before they were 15 years old than urban dwellers (18.2%), and men started earlier than women – one in five (22.2%) male smokers and 1 in 10 (12.4%) female smokers started before 15 years of age. The average age for starting to smoke was 16.6 years for men and 17.8 years for women: 40.3% of the male smokers and 36.5% of the female smokers started when they were aged 15–17 years. More than half (58.9%) of the smokers started smoking before the age of 18 years (men: 62.5%, women: 48.9%), which is the legal age for buying tobacco, and one in five (19.6%) started before the age of 15 years (men: 22.2%, women: 12.4%).

The sale of tobacco products to minors has been banned since 1996, and Law No. 5727 makes this punishable by imprisonment in addition to monetary fines. Young people below the age of 18 years cannot buy cigarettes in supermarkets or large street markets but they can easily buy them from small markets on the street and street vendors (8).

Tobacco (nicotine) dependency appeared to be quite high. Overall, more than half (56.0%) of the smokers (men: 63.1%, women: 30.4%) smoked 16 or more cigarettes a day, and 41.1% (men: 42.6%, women: 35.6%) of the smokers smoked their first cigarette of the day within 30 minutes of waking up. The average number of cigarettes smoked daily was 17.7. Almost one in five (17.7%) of the male smokers and 7.6% of the female smokers smoked 20 or more cigarettes a day (the heavy smokers). On the other hand, overall one in ten (10.8%) smokers smoked five or fewer cigarettes daily (men: 6.7%, women: 25.7%).

#### ***Narghile (water-pipe, shisha) and other forms of tobacco use***

A specific kind of tobacco use is narghile. Traditionally narghile was used among older people, but in recent years it has been promoted particularly towards young adults and become more popular among adolescents. Over half the narghile users were aged 18–25 years. More importantly, 27.1% of those who smoked narghile had no clear idea of its health hazards, and 18.3% thought that it had no harmful effects (11, 12). Although the prevalence of narghile use in 2008 was not so high (2.3% – males: 4.0%, females: 0.7%), there is potential for an increase in its use, particularly among urban adolescents. The GATS results showed narghile use was higher among young adults (4.3% in the group aged 15–24 years) and in urban areas (2.9%, vs. 1.0% in rural areas). It was also high among educated people (5.1% among high school graduates and 3.9% among university graduates). Most narghile users smoked it at narghile cafés, although narghile smoking at home was also common, particularly among women. A little over a quarter (26.8%) of the women who smoked narghile smoked it at home (8).

Although the Survey showed that tobacco-smoking was high, people mostly (96.5%) smoked manufactured cigarettes. Other forms of tobacco use, such as hand-rolled cigarettes, pipes or cigars, were extremely low. Very few smokers smoked hand-rolled cigarettes (2.6%), 2.3% smoked narghile and only 0.9% smoked tobacco in other forms (cigars, pipes, etc.) (8).

#### ***Smoking among health care professionals***

Since health care professionals have a special importance regarding tobacco use, some studies have been carried out to investigate their smoking behaviour. These have shown that smoking prevalence among medical people is quite similar to the general population. Studies during the 1980s and 1990s found much higher prevalence figures: around half of the physicians (41–50%) and nurses/midwives (50.8%), and over half of the health technicians and dentists smoked. Recent studies have, however, shown a much lower figure for smoking among physicians, albeit still high (Table 7) (3, 13).

Table 7. Smoking prevalence among health care professionals, 1988–2008

| Year              | Place                 | Participants, age and gender                    | No. of participants      |      | Prevalence (%)                      |                      |
|-------------------|-----------------------|---|--------------------------|------|-------------------------------------|----------------------|
| 1988 <sup>a</sup> | Elazığ                | Physicians, dentists<br>male and female         | Physicians               | 209  | Physicians                          | 49.3                 |
|                   |                       |   | Dentists                 | 44   | Dentists                            | 68.2                 |
| 1993 <sup>a</sup> | Elazığ                | Nurses, midwives, female                        |                          | 656  |                                     | 50.8                 |
| 1995 <sup>a</sup> | Ankara                | Physicians, male and female<br>36.3+/-9.1 years |                          | 237  |                                     | 43.9                 |
| 1997 <sup>a</sup> | Elazığ                | Health care professionals                       |                          | 392  | Physicians<br>Nurses<br>Technicians | 50.0<br>47.0<br>54.2 |
| 1998 <sup>a</sup> | 17 provinces          | Physicians, male and female<br>36.1±7.8 years   |                          | 985  |                                     | 41.1                 |
| 1999 <sup>a</sup> | 17 provinces          | Physicians, male and female<br>36.0±7.8 years   |                          | 1127 |                                     | 43.1                 |
| 2006 <sup>a</sup> | Ankara                | Pharmacists                                     |                          | 83   |                                     | 38.6                 |
| 2008 <sup>b</sup> | Representative sample | Health care professionals, male and female      | General practitioners    | 653  |                                     | 30.5                 |
|                   |                       |   | Specialists              | 634  |                                     | 22.1                 |
|                   |                       |   | Dentists and pharmacists | 722  |                                     | 26.1                 |
|                   |                       |   | Nurses and midwives      | 1381 |                                     | 29.5                 |
|                   |                       |   | Health technicians       | 705  |                                     | 33.8                 |

Source: <sup>a</sup>Bilir N et al (1); <sup>b</sup>Aslan D, Bilir N, Özcebe H (13).

A study carried out in 2008 on a representative sample of more than 4000 health care staff of the Ministry of Health revealed that one in three (30.5%) of the general practitioners and one in five (22.1%) of the specialist physicians currently smoked. Nicotine dependence seemed quite high among health care professionals. Almost half of the general practitioners and specialist physicians (38.5% and 38.3%, respectively) said they smoked their first cigarette of the day within 30 minutes of waking up, and 53.0% of the general practitioners and 41.6% of the specialists smoked 16 or more cigarettes a day. Nevertheless, a majority (70–80%) of the physicians had thought about stopping, or had tried to do so (13).

Health care professionals play a crucial role in tobacco control and smoking cessation services. Their own smoking behaviour and attitudes and their attitudes towards other people smoking in the community are, therefore, very important. Only 26.3% of general practitioners and 32.6% of specialist physicians said they get information regarding smoking behaviour from all their patients. Among the general practitioners, 2.2% do not find out their patients' smoking behaviour at all. This figure is much higher (8.9%) among specialist physicians. Even fewer dentists/pharmacists (12.6%) and nurses (15.3%) ask about patients' smoking behaviour (13).

### **Adolescent smoking**

Adolescents are an important interest group regarding smoking, and a number of studies have been carried out of their smoking behaviour, mainly among schoolchildren and students. Most of these took place in schools among students in the 7th class (ranging that year from 13 to 15 years of age) and 10th class (ranging that year from 15 to 19 years of age). These studies found a smoking prevalence of 0.9–9.4% among the 7th class students and 15.9–

41.2% among the 10th class students (1,3). The wide ranges, particularly among high school students, were probably due to variations in data collection practices and the use of different definitions of smoking status. Nevertheless, it is clear that smoking is quite common among adolescents (Table 8).

Table 8. Smoking prevalence among high school students

| Year              | Place                    | Participants, age and gender              | No. of participants | Prevalence (%)                          |
|-------------------|--------------------------|---|---------------------|---|
| 1989 <sup>a</sup> | Elazığ                   | 17–19 years, male and female              | 220                 | Male: 41.2<br>Female: 9.5               |
| 1995 <sup>a</sup> | Ankara, schools          | 13–15 years (7th class), male and female  | 512                 | 3.5                                     |
| 1995 <sup>a</sup> | Ankara, schools          | 15–17 years (10th class), male and female | 552                 | 28.3                                    |
| 1997 <sup>a</sup> | 17 provinces, schools    | 13–15 years (7th class), male and female  | 1 455               | 2.1                                     |
| 1999 <sup>a</sup> | 17 provinces, schools    | 13–15 years (7th class), male and female  | 1 672               | 0.9                                     |
| 1999 <sup>a</sup> | 17 provinces, schools    | 15–17 years (10th class), male and female | 1 318               | 16.3                                    |
| 1999 <sup>a</sup> | 17 provinces, schools    | 15–17 years (10th class), male and female | 1 466               | 14.8                                    |
| 2003 <sup>b</sup> | National, schools (GYTS) | 13–15 years male and female               | 15 957              | Total: 6.9<br>Male: 9.4<br>Female: 3.5  |
| 2003 <sup>a</sup> | Zonguldak                | 16 years (10th class) male and female     | 120                 | Total: 15.9<br>Male: 21<br>Female: 11   |
| 2004 <sup>c</sup> | 15 cities, schools       | 13–17 years male and female               | 6 012               | 13.3                                    |
| 2009 <sup>d</sup> | National, schools (GYTS) | 13–15 years male and female               | 5 054               | Total: 8.4<br>Male: 10.2<br>Female: 5.3 |

Source: <sup>a</sup>Bilir N et al (1); <sup>b</sup>Ergüder T et al (14); <sup>c</sup>Erbaydar T et al (15); <sup>d</sup>Ergüder T (16).

In 2003, the Global Youth Tobacco Survey (GYTS), which covered almost 16 000 adolescents, was carried out (14). This found that 35% of male and 22% of female schoolchildren aged 13–15 years had tried smoking, and 6.9% of them (male: 9.4%, female: 3.5%) were currently smoking. A second major study, carried out in 2004 and covering 6012 schoolchildren aged 13–17 years in 15 cities across the country, found a smoking prevalence of 13.3% (15).

The repeated GYTS in 2009 revealed an increase in smoking prevalence among students of 8.4% (male: 10.2%, female: 5.3%). More importantly, 1 in every 10 (10.2%) of the students said they would start smoking within a year (16).

Some studies were also carried out among university students, including medical school students at different universities and medical schools. Smoking prevalence among university students varied between 7.8% and 58.0%. Among the university students, smoking prevalence was much lower in the first classes but rose as the years passed. This was noted among students in the faculties of pharmacy and of literature, but not among medical students (Table 9) (17–19).

Table 9. Smoking prevalence among university students, 2000–2006

| Year | Place                                       | Participants, gender                            | No. of participants  | Prevalence (%)   |
|------|---|---|--|--|
| 2000 | Faculty of Literature, Hacettepe University | All classes<br>male, female                     | 1st year: 143<br>2nd year: 147<br>3rd year: 131<br>4th year: 200                 | 1st year: 29.4<br>2nd year: 35.4<br>3rd year: 46.8<br>4th year: 58.0                 |
| 2004 | Faculty of Pharmacy, Hacettepe University   | 1st and 4th year students,<br>male, female      | 1st year: 102<br>4th year: 105   | 1st year: 12.0<br>4th year: 17.5   |
| 2005 | Hacettepe University                        | 1st and 3rd year students,<br>male, female      | 2588   | 25.7   |
| 2005 | Hacettepe University                        | 1st year students,<br>male, female              | 1037   | Total: 16.1<br>Male: 22.1<br>Female: 13.6  |
| 2006 | Konya                                       | Final year medical<br>students,<br>male, female | 129  | Total: 20.9<br>Male: 34.7<br>Female: 7.7   |
| 2006 | Gaziantep                                   | 1st and 4th year students,<br>male, female      | 466  | Total: 20.8<br>Male: 27.9<br>Female: 11.8  |
| 2006 | Faculty of Medicine Hacettepe University    | Classes 1–5,<br>male, female                    | 1st year: 98<br>2nd year: 129<br>3rd year: 112<br>4th year: 106<br>5th year: 135 | 1st year: 10.2<br>2nd year: 7.8<br>3rd year: 8.9<br>4th year: 10.4<br>5th year: 10.4 |

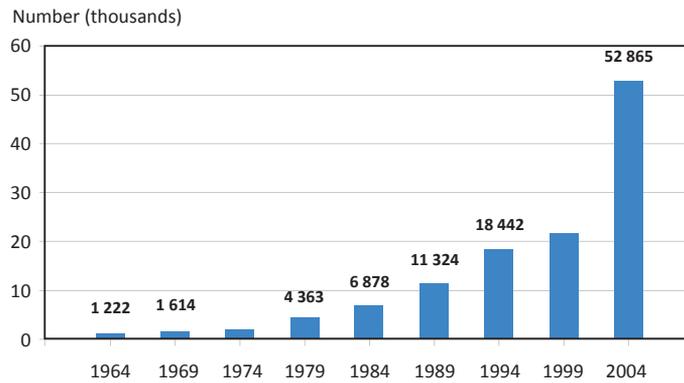
Source: Bilir N et al (1).

The Turkey Youth Sexual and Reproductive Health Survey 2007, a representative study carried out among the group aged 15–24 years, reported that cigarette use was quite common in this group, especially among males: 37.7% of the males and 19.2% of the females reported that they currently smoked. While smoking was more prevalent among urban females than among rural females (21.1%), a higher proportion of rural males smoked compared to urban males (41.5%). The prevalence of smoking was higher among young people with a lower educational level. No significant correlation between household welfare level and smoking habits was seen (20).

### Health consequences of increased tobacco use

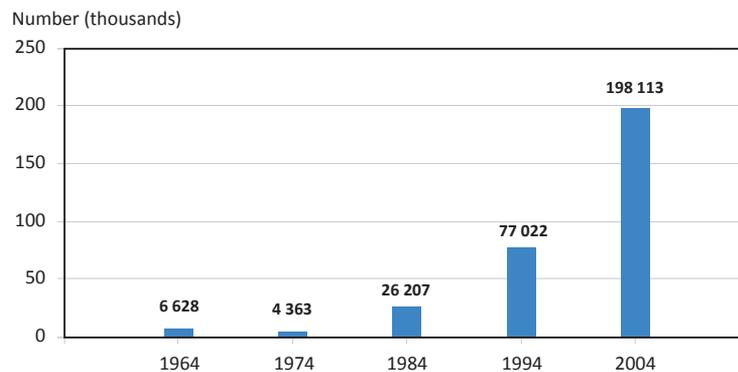
Tobacco use is an important risk factor for a number of some major diseases, such as lung cancer and heart and respiratory diseases. Hospital admission data indicate considerable increases in the number of cases of lung cancer, heart diseases and chronic obstructive pulmonary disease for a 40-year period starting in the 1960s (Fig. 5–7) (21–23). Between 1964 and 2004, the number of lung cancer cases increased by more than 40 times. Part of this could be attributed to improvements in the availability and accessibility of health services during this period; nevertheless, the rise in tobacco use must have had an effect.

Fig. 5. Hospital admissions due to lung cancer, 1964–2004



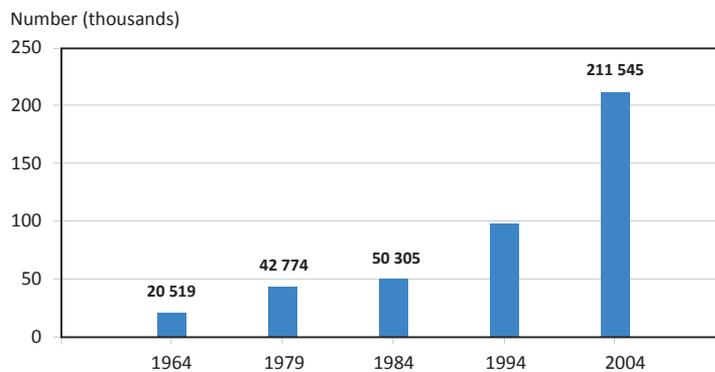
Source: Ministry of Health (21, 22), Turkish Statistical Institute (23).

Fig. 6. Hospital admissions due to coronary heart disease, 1964–2004



Source: Ministry of Health (21, 22), Turkish Statistical Institute (23).

Fig. 7. Hospital admissions due to chronic obstructive pulmonary disease, 1964–2001

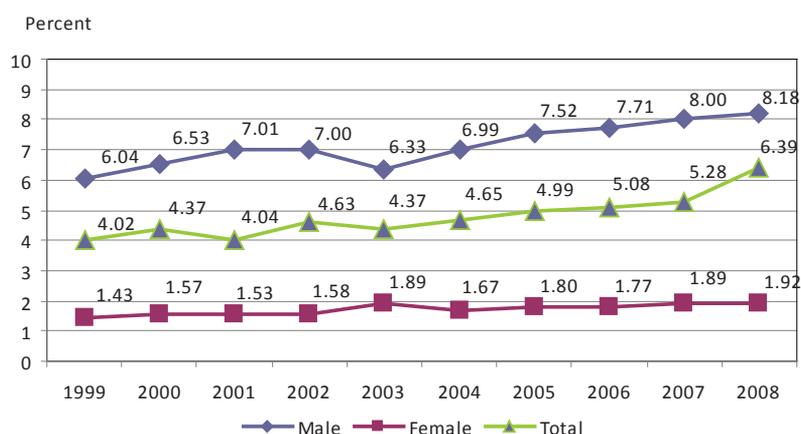


Source: Ministry of Health (21, 22); Turkish Statistical Institute (23).

An increase in lung cancer is seen in mortality figures as well. During the 10 years from 1999 to 2008, both the number of deaths due to lung cancer and the percentage of total deaths showed increases, particularly among males.

Overall, 6.39% of all deaths were caused by lung cancer in 2008. The percentage of lung cancer deaths increased from 6.04% to 8.18% among males during the 10 years 1999–2008. The percentage increase among females was less, rising from 1.43% in 1999 to 1.92% in 2008 (Fig. 8) (22).

Fig. 8. Lung cancer deaths as percentage of total deaths, 1999–2008



Source: Ministry of Health (21, 22), Turkish Statistical Institute (23).

The Burden of Disease study carried out in 2000 calculated disability-adjusted life-years (DALYs) for some diseases and risk factors for Turkey. The major health problems relating to tobacco use, such as ischaemic heart disease, cerebrovascular diseases, cancers and chronic obstructive pulmonary disease, were among the top 10 conditions causing DALYs. A total of 54 699 deaths, almost 600 000 lost years and almost one million DALYs (8.6% of total DALYs) were attributed to tobacco-smoking (Table 10) (24,25).

Table 10. Burden of disease attributed to tobacco-smoking, 2000

| Disease                               | Attributed deaths | Attributed years of life lost | Attributed DALYs | Proportion of attributed DALYs (%) |
|---------------------------------------|-------------------|-------------------------------|------------------|------------------------------------|
| Cardiovascular diseases               | 21 317            | 274 770                       | 321 237          | 3.0                                |
| Chronic obstructive pulmonary disease | 12 902            | 72 689                        | 150 406          | 1.4                                |
| Lung cancer                           | 10 510            | 107 075                       | 112 634          | 1.0                                |
| Other cancers                         | 4 681             | 58 756                        | 62 302           | 0.6                                |
| Other respiratory diseases            | 2 105             | 33 387                        | 58 377           | 0.5                                |
| Other selected diseases               | 3 185             | 5 006                         | 226 953          | 2.1                                |
| All selected diseases                 | 54 699            | 596 684                       | 931 909          | 8.6                                |

Source: Ministry of Health (24).

## Economic burden of tobacco use

Another issue regarding tobacco use is the economic burden arising from the purchase of tobacco and expenses for diagnosis and treatment of diseases caused by its use. The 2008 GATS results indicated that there were 16 million adult smokers in Turkey, spending an average of 90 TL (US\$ 58) a month to buy cigarettes (8). This comes to almost 1100 TL (US\$ 710) annually, meaning that a smoker would spend 20 000 TL (US\$ 13 300) over 20 years, which is the price of an average car. The total amount spent on buying tobacco products is 17 billion TL (US\$ 11 billion) annually. The scarcity of research on the economic burden of tobacco-related disease in Turkey means that it could be estimated that at least another US\$ 10–12 billion could be spent on the diagnosis and treatment of patients, making a total annual burden of US\$ 20–22 billion.

A large part of the economic burden arises from health problems due to tobacco-smoking. Studies on this issue are very rare. One carried out in 2003 on the economic burden of lung cancer patients at Hacettepe University in Ankara followed 84 patients with lung cancer from their first admission to hospital until their deaths (26). The average amount spent by the hospital per patient was found to be US\$ 10 000. Of this, US\$ 1000 was spent between the time of first admission until confirmation of the lung cancer diagnosis, and US\$ 9000 was spent on treating the disease and its complications. The estimated annual number of new lung cancer cases is around 40 000, giving a total annual economic burden of US\$ 400 million. This figure is much higher when other expenses (amount spent by the patient, loss of productivity, loss due to premature death, etc.) are added.

# DEVELOPMENT OF TOBACCO CONTROL ACTIVITIES AND LEGISLATION

## First anti-tobacco law in 1996 and nongovernmental organizations

Although some publications on the harm of tobacco-smoking were seen in the early 1900s, sound anti-tobacco activities started relatively late in Turkey. Tobacco control was introduced in the mid-1980s and is now one of the priorities of the Ministry of Health. In 1987, the Minister of Health invited relevant specialists to discuss the possibilities for, and methods of, tobacco control, and in 1988 the Ministry carried out the first countrywide prevalence survey.

The multinational tobacco industry had undertaken significant political and marketing activities since 1986, but it was not until 1991 that an organized anti-tobacco nongovernmental movement started. The first Tobacco and Health Symposium, involving parliamentarians and the media, was organized in 1992 in Ankara. The tobacco industry organized a simultaneous entertainment for the students of a well-known university in Ankara, probably to undermine and intimidate the first initiatives of the tobacco control groups. In May 1995, a group of tobacco control advocates and organizations under the leadership of the Turkish Medical Association, the Turkish Public Health Association, the Turkish Thoracic Society, the Society of Public Health Specialists, the Society of Health Promotion and the Fight Against Tobacco came together to form the National Coalition on Tobacco and Health, which later played an effective role in the legislative process and the negotiation and implementation of the WHO Framework Convention on Tobacco Control. The Coalition was also active in the development and enforcement of the 1996 tobacco control legislation and its amendment in 2008 as well as in organizing five Tobacco and Health Congresses (in 1997, 1999, 2006, 2010 and 2011). The Coalition has more than 30 members from governmental and nongovernmental organizations and is led by member organizations and representatives of medical professions, labour unions, agricultural societies and several ministries on a rotating basis (1).

A law on tobacco control was adopted by the Grand National Assembly in 1991 but was vetoed by the President on the basis that an advertising ban was against free trade. A year later, in 1992, another bill was prepared and submitted to parliament. This time, the members of the justice committee did not find the health evidence sufficiently convincing and sent the bill to a sub-commission, where it remained until the next election, a long time later (1).

After the new elections, a group of members of parliament worked on the law again and it was submitted to the Grand National Assembly. Following a series of discussions, it was accepted by parliament once more, signed by the President, and came into force in November 1996 as Law No. 4207 on Preventing Harms of Tobacco Products (27). Civil society organizations played an important role during the discussions in Parliament. The Law banned smoking in some public places as well as the advertisement and promotion of tobacco products. The major items in the Law were:

- bans on smoking in some public places, such as health, educational and sports facilities and some government offices, and on and in public transport vehicles and premises;
- bans on all kinds of advertising and promotion of tobacco products;

- bans on sales of tobacco products to minors under 18 years of age;
- inclusion of health warnings on tobacco packages;
- instructions to all national television (TV) channels to dedicate at least 90 minutes per month air time to broadcasts on the harms of tobacco use.

Law No. 4207 was the most important achievement and a major milestone on the way to tobacco control in Turkey. After it was passed, the direct advertising of tobacco products disappeared completely, not only from TV programmes and in the press but also from billboards and cinemas. Health warnings were printed on cigarette packs, and smoking was banned for the first time in some enclosed places. Cigarette vending machines had not been seen in Turkey before the Law was passed and have not been imported since.

It was quite difficult introducing and implementing this Law in a country where smoking was common and there were no regulations to restrict smoking. Before the passage of the Law, smokers could smoke wherever they liked, even in health and educational institutions. Afterwards, modes of public transport (such as buses, aircraft and trains) became smoke-free. The non-smoking policy was quite well accepted by the public and observed in many closed places, although at that time it did not apply to the hospitality industry.

## **Establishment of the Tobacco Regulatory Authority, 2002**

Following the privatization of TEKEL, a new body was needed to regulate the tobacco market. The Tobacco and Alcohol Market Regulatory Authority (TAPDK) was, therefore, established in 2002 to regulate the markets in tobacco and alcohol, including the packaging and selling of tobacco products (9). The Authority's mission was "to regulate tobacco and alcoholic beverages market, taking into account the economics of the country, as well as public health concerns, and also protection of social values of the community" (9). Besides its regulatory function, TAPDK has the duty and responsibility of inspection and control of the implementation of the Law. In accordance with the WHO Framework Convention on Tobacco Control, the Authority defines the rules for the production and sale of tobacco products, indicates the maximum levels of carbon monoxide, nicotine and tar emissions of these products and regulates the market. In cases where the legislation is violated, TAPDK has the right to penalize the tobacco industry. It also promotes alternative agricultural policies for farmers producing tobacco.

The Authority was established as an independent organization, both in terms of management and finance. However, during a governmental reorganization in 2011, it was placed under the Ministry of Agriculture.

TAPDK plays an important role in tobacco control by licensing the retailers and promulgating the rules to regulate and control the activities of the tobacco industry. It has banned the use of misleading labels such as "mild", "light" or "ultra-light". In 2005, the Authority published a byelaw on warning labels on cigarette packs. The previous warning was replaced by two alternative texts covering 40% of the main side of the packs: "Smoking kills" and "Smoking seriously harms you and others around you". A set of 14 additional text warnings, which are more effective and meaningful than the previous simple warnings, were printed in rotation to cover 30% of the back of the pack. These messages met the minimum requirement of the Framework Convention on Tobacco Control. Subsequently TAPDK decided to print pictorial warnings selected from the European Union's library. The tobacco industry went to court twice over the regulation about the pictorial warnings, delaying implementation for four months until May 2010. The pictures cover 65% of the main surface of the pack. On the back of the packs, written messages were printed in rotation to cover 30% of the surface.

In June 2011, a new regulation came into force laying down the rules to be observed at points

of sale, including that cigarettes and other tobacco products should be kept in closed places such that they cannot be seen from outside the establishment.

As well as all these regulatory duties and activities, TAPDK is also responsible for raising awareness about the harms of tobacco use. For this purpose, it organizes meetings, particularly during World No-Tobacco Day on 31 May, and supports various activities such as Quit and Win Campaigns.

## **Ratification of the Framework Convention on Tobacco Control, 2004**

Tobacco use is one of the most important and preventable causes of death in the world. It kills more than five million people every year worldwide, including more than 100 000 in Turkey – numbers that are estimated to rise to 8 million and more than 200 000, respectively, by 2030. The need for international coordination and collaboration to reduce this death toll led to the development by WHO of an international treaty to facilitate international collaboration on tobacco control. After long discussions and negotiations, Member States gave their full support to the adoption of the WHO Framework Convention on Tobacco Control (WHO FCTC) at the World Health Assembly in 2003. The objective of the Convention was to:

... protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke by providing a framework for tobacco control measures to be implemented by the Parties at the national, regional and international levels in order to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke. (28)

During this process the Turkish nongovernmental community had lobbied the government assiduously and was able to reach a consensus on the Convention, in a country where tobacco-growing was part of the culture and a significant source of revenue. Turkey signed the WHO FCTC on 28 April 2004 and ratified it on 30 November 2004. Law No. 5261 on tobacco control is in line with its requirements; relevant commissions are designing further requirements from the WHO FCTC on national tobacco control programmes via this law (29).

## **National tobacco control programme and action plan, 2006**

Following ratification of the WHO FCTC, the Ministry of Health formed a National Tobacco Control Committee in 2004 with the mandate to prepare a national tobacco control programme and an action plan (30). This programme was prepared by civil servants from the relevant ministries, university academics and representatives of several nongovernmental organizations. It was promulgated in a Prime Minister's Circular in 2006, with the main objective of reducing the prevalence of tobacco use among both adults and adolescents. In line with the WHO FCTC, the action plan for the period 2008–2012 has 10 articles covering:

- information, education and awareness-raising about tobacco-related health hazards
- smoking cessation
- pricing and taxation
- prevention of exposure to second-hand tobacco smoke
- advertising, promotion and sponsorship
- product control and information for consumers
- illegal trade
- accessibility by young people
- tobacco production and alternative policies
- monitoring and evaluation of tobacco use.

Working groups of 8–10 experts for each of the 10 articles meet regularly and discuss relevant issues regarding the specific article. The National Tobacco Control Committee was formed with the participation of the heads of the 10 working groups. It meets twice a year to review implementation and make suggestions to relevant governmental and nongovernmental organizations. The Ministry of Health serves as the secretariat for all these activities. In the meantime, the small division of tobacco control at the Ministry has been promoted to directorate level, providing more people to organize activities.

In line with the action plan, and following the 2008 amendment to Law No. 4207, the assistant governors, provincial health directors and municipal mayors and their health directors in all 81 provinces received training regarding the Law, the inspection procedures and their responsibilities. They were asked to form provincial tobacco control commissions and inspection teams in each province.

The national tobacco control programme and the action plan are mentioned in the strategic plan of the Ministry of Health and in noncommunicable diseases control policies.

### **Amendment of Law No. 4207 through Law No. 5727, 2008**

Law No. 4207 of 1996 banned smoking in some public places, including health and educational facilities and on public transport but not in restaurants, bars and cafés and other kinds of hospitality venue. Smoking in these places is not only an important public health issue but also a workplace hazard for workers in the hospitality sector. After the Law had been implemented for about 10 years, amendments were needed to some of its provisions. A new proposal was prepared as part of the implementation of the WHO FCTC and submitted to parliament in 2006. Turkish nongovernmental organizations worked with the government and global nongovernmental organizations during the preparation of this implementation bill, facilitated mainly by Bloomberg partners and WHO. Following long discussions in the relevant parliamentary commissions, it was accepted in January 2008 as Bill No. 5727 Amending the Law on Prevention of Hazards of Tobacco Control Products (31). It broadens the range of places where smoking is not allowed (including school premises, all hospitality workplaces and commercial taxis), bans the sale of tobacco products within schools and on their premises, bans all kinds of sponsorship in addition to the ban on advertising and promotion contained in the previous Law, clearly defines the rules in cases of violation and places the duty on the directors of the establishments to uphold the law. By this Law, Turkey became one of the first completely smoke-free countries in the world (31).

Implementation of Law No. 5727 was planned in two phases: the first phase, covering official premises, started 4 months later in May 2008, and the second phase, covering hospitality workplaces, started 18 months later in July 2009. The reason for the 18-month delay in implementing the second phase was to give the hospitality industry time to adapt to the new rules.

After the enactment of Law No. 5727, resistance and difficulty were anticipated from representatives of the areas of the hospitality industry which would be included in July 2009. But instead of adapting their venues, the representatives of organizations and societies of coffee/tea-houses, restaurants and cafés tried to reverse the Law to permit the separation of smoking and non-smoking sections within the establishments.

The National Coalition on Tobacco and Health organized a series of meetings with groups such as the Society of Coffee-house Owners, the Society of Restaurant Owners and the Society of Tourist Hotels and Restaurant Owners to discuss the rationale for the smoke-free legislation and its scientific basis. Experts in tobacco control and ventilation systems engineers gave presentations to explain the working of separate smoking and non-smoking areas in their premises, and why the installation of ventilation systems was not enough to clean the indoor air completely.

The major concern of the hospitality industry representatives was the risk of economic loss due to a possible fall in the number of customers. Explanations were given about other countries' experiences, including the economic benefits to hospitality workplaces without economic loss. The Ministry of Health also organized meetings with representatives of the hospitality sector to explain the rationale of the smoke-free legislation and made clear that the Law would not be changed. The Prime Minister also gave a speech to the media in support of the Law.

Hospitality sector representatives were presented with evidence-based declarations by nongovernmental organizations, and the group reached a consensus before the second phase implementation of the Law. However, although the representatives seemed to be convinced of the benefits of and need for completely smoke-free environments, after the meetings they continued to resist the implementation of the Law. Finally, they requested the Constitutional Court to cancel the articles regarding completely smoke-free workplaces. Following submission of a report detailing the scientific evidence by members of nongovernmental organizations and government officials, the Court rejected this request.

In addition to these meetings and discussions, several projects and small-scale surveys were carried out by members of the National Coalition on Tobacco and Health to strengthen and consolidate implementation of the smoke-free provisions. A great effort was made to raise public awareness through such activities as public conferences, small group discussions, meetings with the press and news bulletins, talks on radio and television, articles for the media, etc. The National Coalition on Tobacco and Health was given a Smoke Free Partnership award for these activities, and the Prime Minister and Minister of Health received awards from WHO (Figs. 9,10) (32).

Fig. 9. The Prime Minister, Mr Recep Tayyip Erdoğan, receiving the WHO Director-General's Special Recognition Award for Tobacco, July 2010



Fig. 10. The Minister of Health, Professor Recep Akdağ, receiving the WHO World No Tobacco Day award, July 2008



Political stability was also important. The Minister of Health and his civil servants remained in place, which was important for the sustainability of the smoke-free policy. On the other hand, nongovernmental organizations, mostly under the umbrella of the National Coalition on Tobacco and Health, participated in most of the discussions at various levels in Parliament, provided scientific evidence and lobbied assiduously.

The main steps in the development of tobacco control activities are summarized in Fig. 11 and the current structure of these activities is in Fig. 12.

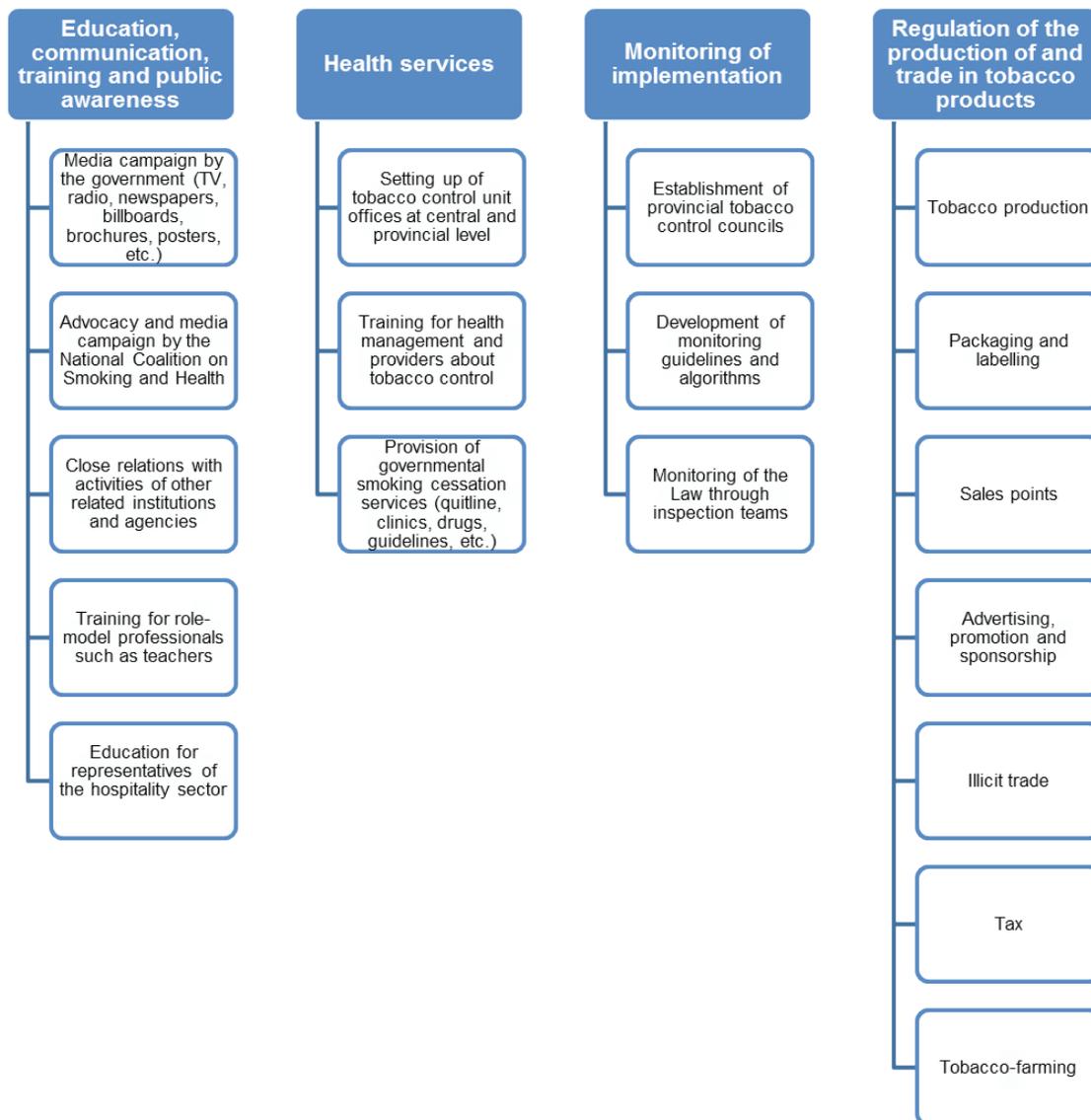
Fig. 11. Main steps in the development of tobacco control activities, 1992–2008

|  |  |
|--|--|
| 1992<br>Initiation of<br>civil society movement                    | •First Tobacco and Health Symposium  |
| 1995<br>Establishment of<br>civil society movement                 | •Establishment of National Coalition on<br>Tobacco and Health  |
| 1996<br>The Law on Preventing<br>Harms of Tobacco Products         | •Entered into force  |
| 2002<br>Regulation of tobacco<br>market                            | •Establishment of TAPDK  |
| 2004<br>Adoption of international<br>legislation                   | •Ratification of FCTC  |
| 2006<br>National tobacco unit                                      | •Promotion of small tobacco unit to<br>director level  |
| 2006<br>Tobacco control<br>programme                               | •Prime Ministerial circular on national<br>tobacco programme and action plan   |
| 2008<br>The Law on Prevention of<br>Hazards of Tobacco<br>Products | •Amendment of the Law No. 4207   |
| 2008<br>Implementation of<br>smoke-free policy                     | •Media campaign for smoke-free air<br>•Inspections<br>•Regulations on tobacco products<br>•Monitoring and evaluation |

### Price and tax policy

Taxes make up an important part of tobacco prices and are a good source of income for governments. The taxation of cigarettes and setting of cigarette prices are the responsibility of the Ministry of Finance. The recent increase in the special consumption tax on tobacco has resulted in the total tax on tobacco products rising to 78% of the retail price. During the last decade nominal cigarette prices more than doubled, so that more than 13 billion TL of the 17 billion TL total revenue from tobacco sales goes back to the government in the form of tax. Even so, it can be estimated that more is spent on the diagnosis and treatment of tobacco-related health problems. Research has shown that a 10% increase in the price of tobacco following a rise in taxes will reduce tobacco consumption by 4–8% and increase government revenues, so that the net balance of an increase in tobacco taxes is beneficial.

Fig. 12. Outline of tobacco control activities in Turkey<sup>a</sup>



<sup>a</sup>Based on GATS, GYTS, health professionals survey and individual surveys.

Cigarette prices are relatively low in Turkey compared with most European countries, making tobacco more affordable. A 20-cigarette pack of the most expensive brand is 7 TL (US\$ 4.5) and of the most popular brand it is 4.5 TL (US\$ 2.8). Since average income is also low, smokers spend a considerable proportion of their income on cigarettes. The lowest monthly salary is around 700 TL (US\$ 450), and the monthly income of a low-grade civil servant is around 1500 TL (US\$ 900). A person smoking a pack of the most expensive cigarettes every day spends 210 TL (US\$ 135) monthly, which is 30% of the lowest monthly income and 14% of the average income of a civil servant.

Smuggling is another concern. Both domestic and foreign cigarettes are subject to smuggling. Cigarettes produced in Turkey are exported to Middle Eastern countries to the south-east of Turkey, then re-enter the country via illegal routes. Foreign brand cigarettes are shipped to free-trade zones in İzmir (a western province) and Mersin (a southern province) and then enter the country. The number of confiscated cigarettes has been increasing in recent years. Based on the Ministry of the Interior's records, more than 10 million packs of cigarettes were confiscated in 2007, and the number increased by five times between 2000 to 2007 (Table 11) (33).

2007, and the number increased by five times between 2000 to 2007 (Table 11) (33).

Table 11. Cigarettes confiscated in Turkey, 2000–2007

| Year | Confiscated cigarettes (1000 packs) | Approximate value (1000 TL) |
|------|-------------------------------------|-----------------------------|
| 2000 | 2 134                               | 1 344                       |
| 2001 | 2 776                               | 3 747                       |
| 2002 | 1 332                               | 2 247                       |
| 2003 | 3 641                               | 7 645                       |
| 2004 | 4 316                               | 11 005                      |
| 2005 | 4 843                               | 14 044                      |
| 2006 | 7 213                               | 23 947                      |
| 2007 | 10 747                              | 42 987                      |

Source: Yürekli A et al (33).

Tobacco taxes have been increased and new excises added since 2002. In January 2003, the *ad valorem* tax rate was increased to 55.3% of the retail price. In 2004, the tax structure was changed and this tax was reduced to 28.0% but a minimum tax of 0.35 TL (US\$ 0.23) to 1.00 TL (US\$ 0.65) was added. In January 2010, the specific tax was increased to 2.65 TL (US\$ 1.71) per pack and the *ad valorem* tax was increased to 63% of the retail price. In addition to the *ad valorem* and specific excise taxes, all cigarettes are subject to an 18% value added tax (VAT) amounting to 15.25% of the retail price (33). In October 2011 the specific tax was increased to 2.90 TL per pack and the *ad valorem* tax was increased to 65% of the retail price (Table 12).

Table 12. Tax (excise, VAT and total) rates as a percentage of retail price of cigarettes, 2002–2011

| Year              | Excise taxes (structure at end of the year) |                               |                       | VAT rate <sup>d</sup> (%) | Total tax rate (%) |
|-------------------|---|-------------------------------|-----------------------|---------------------------|--------------------|
|                   | <i>Ad valorem</i> (%)                       | Minimum specific tax per pack | Total excise rate (%) |                           |                    |
| 2002              | 49.5  |                               | 49.5                  | 15.25                     | 64.8               |
| 2003              | 55.3  |                               | 55.3                  | 15.25                     | 70.6               |
| 2004              | 28.0  | plus 0.35–1.00 TL             | 56.3                  | 15.25                     | 71.6               |
| 2005 <sup>a</sup> | 58.0  | or 1.20 annually              | 60.2                  | 15.25                     | 75.5               |
| 2006              | 58.0  | or 1.20 annually              | 59.4                  | 15.25                     | 74.6               |
| 2007              | 58.0  | or 1.55 annually              | 58.2                  | 15.25                     | 73.5               |
| 2008              | 58.0  | or 1.55 annually              | 58.1                  | 15.25                     | 73.3               |
| 2009 <sup>b</sup> | 58.0  | or 2.05 annually              | 58.8                  | 15.25                     | 74.1               |
| 2010 <sup>c</sup> | 63.0  | or 2.65 annually              | 63.4                  | 15.25                     | 78.7               |
| 2011              | 65.0  | or 2.90 annually              | 65.0                  | 15.25                     | 80.3               |

Notes. The following were the tax rates at the end of each year.

<sup>a</sup> Since July 2005, companies pay the greater of the *ad valorem* or the specific excise.

<sup>b</sup> 2009 total and excise tax rates are the advantage values calculated based on the first eight months of sales and paid taxes.

<sup>c</sup> 2010 average total and excise tax rates are estimated based on October 2009 prices and predicted sales of cigarettes for the 12 months of 2009.

<sup>d</sup> Expressed as a percentage of the price inclusive of VAT. As a percentage of prices excluding VAT, this translates as 18%.

Source: Yürekli A et al (33), Ministry of Finance 2011.

Three studies have examined the demand for cigarettes in Turkey. In the first of these, Tansel found that cigarette prices had a negative and significant impact on cigarette consumption, with an average estimated price elasticity of -0.21 in the short run, rising to -0.37 in the long run (34). On the other hand, in 2002 Önder estimated the price elasticity as -0.190 to -0.284 for the period 1960 to 2000 (35). Önder also analysed the 1994 Turkish Household Expenditure Survey and found that poor people are more sensitive than rich people to price increases (overall elasticities of -0.47 and -0.16, respectively) (33).

In a recent study, Önder & Yürekli (2007) added data from the 2003 Turkish Household Expenditure Survey to look at changes in price elasticity over time (36). Using a similar approach, they estimated a cigarette demand elasticity of -0.67 in 2003. Önder & Yürekli found that the increased price sensitivity of smoking was true for all income quintiles and that smoking among those in poor households was nearly twice as sensitive to price as smoking among those in rich households (33).

# IMPLEMENTATION OF MEASURES IN LINE WITH THE WHO FCTC

In 2003, WHO adopted the WHO FCTC to protect communities from the health consequences and economic burden of tobacco use (28). This international treaty provides the necessary methodology for governments and policy-makers to control the use of tobacco and reduce its harmful consequences. It indicates three main approaches:

- measures to reduce the demand for tobacco products
- measures to reduce the supply of tobacco products, and
- monitoring and evaluation of tobacco use and tobacco control measures.

Turkey ratified the WHO FCTC in November 2004 and has approved strong policy measures to control the tobacco epidemic by enacting Bill No. 5727 in 2008 amending Law No. 4207 of 1996 on the Prevention of Harmful Effects of Tobacco Products. The amended Law meets almost all the items described in the Treaty. Table 13 shows the items in Law No. 5727 that are relevant to the WHO FCTC.

Following the ratification of the WHO FCTC by most countries, WHO developed the MPOWER package to provide countries with a tool supporting the implementation of the treaty and reversing the devastating global tobacco epidemic (40). As a best practice tool for implementing the treaty, the MPOWER package sets out strategies for the effective control of and reduction in the use of tobacco. The six main strategies are:

- to protect people from tobacco smoke
- to offer help with stopping tobacco use
- to warn about the dangers of tobacco
- to enforce bans on tobacco advertising, promotion and sponsorship
- to raise taxes on tobacco
- to monitor tobacco use and prevention policies.

When implemented and enforced as a package, the six policies will prevent young people from beginning to smoke, help current smokers to stop, protect non-smokers from exposure to second-hand smoke, and free countries and their people from the harm arising from tobacco use. Legislation on tobacco control in Turkey is fulfilling many of WHO FCTC obligations (Table 13).

Table 13. Evaluation of tobacco control legislation and its implementation in line with the WHO FCTC in Turkey

| WHO FCTC   | Legal status in Turkey  | Implementation in Turkey   |
|--|---|--|
| Part I: Introduction   | Law No. 5261 on Approval of the Framework Convention on Tobacco Control (37)  |  |
| Part II: Objective, guiding principles and general obligations     | Law No. 5261 on Approval of the Framework Convention on Tobacco Control (37)  |  |
| Article 5. General obligations                                     |   | <ul style="list-style-type: none"> <li>The National Tobacco Control Unit has been established under the Ministry of Health General Directorate of Primary Health Care in 2006.</li> <li>Provincial tobacco control boards and inspection teams have been established in each province.</li> <li>In collaboration with TAPDK, the Ministry of Health has increased the level of enforcement, especially after full implementation of Law No. 5727 in July 2009.</li> <li>Relations with WHO Turkish Office</li> </ul> |
| Article 6. Price and tax measures to reduce the demand for tobacco | <ul style="list-style-type: none"> <li>Law No. 4760, Special Consumption Tax Applications in 2010</li> </ul>  | <ul style="list-style-type: none"> <li>A cigarette excise tax regime has been introduced, consisting of an <i>ad valorem</i> tax with a specific floor value. Effective from 1 January 2010, the <i>ad valorem</i> rate is 63% of retail price. The total tax is 80.3 % since October 2011.</li> </ul>   |
| Article 7. Non-price measures to reduce the demand for tobacco     |   | <ul style="list-style-type: none"> <li>TAPDK is the agency responsible for relations with the tobacco industry.</li> </ul>   |
| Article 8. Protection from exposure to tobacco smoke               | <ul style="list-style-type: none"> <li>Law No. 4207 (1996) bans smoking in some public places, such as health, educational and sports facilities and some government offices.</li> <li>Law No. 5727 (2008) bans smoking in all indoor areas and on public transport, including in taxis and in hospitality venues (Article 2).</li> <li>Environmental tobacco smoke is included in the national tobacco control programme and action plan (29).</li> </ul>  | <ul style="list-style-type: none"> <li>Provincial tobacco control boards and inspection teams are responsible for monitoring the implementation of the Law in hospitality venues.</li> <li>If an inspection team finds a violation of the Law during its inspections, it is obliged to report this violation.</li> <li>Representatives of the hospitality sector have been invited to be informed about the Law at national and provincial level.</li> </ul>   |
| Article 9. Regulation of the contents of tobacco products          | <ul style="list-style-type: none"> <li>Product control and information for customers are included in the national tobacco control programme and action plan (29).</li> </ul>  | <ul style="list-style-type: none"> <li>TAPDK is working to establish a laboratory to test and measure the contents and emissions of tobacco products.</li> </ul>   |
| Article 10. Regulation of tobacco product disclosures              | <ul style="list-style-type: none"> <li>Product control and information for customers are included in the national tobacco control programme and action plan (29).</li> <li>They are also mentioned in the Regulation on Production, Labelling and Inspection of Tobacco Products (38).</li> <li>The tobacco industry should obey the criteria for the importation of tobacco products (Decision of the TAPDK Board on Regulation of Production and Trading of Tobacco Products, 13/01/2011-27814.)</li> </ul> | <ul style="list-style-type: none"> <li>TAPDK is the agency responsible for Article 10.</li> <li>The tobacco industry should give TAPDK information about the contents and emissions of tobacco products.</li> </ul> <p><i>Limitation. TAPDK does not have a laboratory to monitor the contents and emissions of tobacco products, so the government has to believe the information supplied by the industry.</i></p>   |

| WHO FCTC   | Legal status in Turkey   | Implementation in Turkey  |
|--|--|---|
| Article 11.<br>Packaging and labelling of tobacco products             | <ul style="list-style-type: none"> <li>Article 5 of Law No. 4207 describes the packaging for tobacco products.</li> <li>Product control and information for customers are included in the national tobacco control programme and action plan (29).</li> <li>The rules for packaging are laid down in the TAPDK's Regulation on Production, Labelling and Inspection of Tobacco Products (38).</li> </ul>   | <ul style="list-style-type: none"> <li>Implementation of combined health warnings was started in 2010.</li> <li>Supervision and inspection of labelling and packaging of tobacco products are conducted by TAPDK under the regulation in force since 2001 (39).</li> </ul> <p><i>Limitations.</i><br/> <i>The surveillance of packaging and labelling should be strengthened.</i><br/> <i>The area of combined warnings does not meet the criteria determined by WHO. TAPDK is preparing new rules for combined warnings.</i></p>   |
| Article 12.<br>Education, communication, training and public awareness | <ul style="list-style-type: none"> <li>Article 5 of Law No. 4207 defines the importance of education on tobacco control. The Law states that all Turkish radio and television stations shall broadcast educational programmes of at least 90 minutes between 08:00 and 22:00 every month explaining the hazards of tobacco products and other harmful habits. These programmes can be prepared by the Ministries of Health and National Education, Turkish Radio and Television Corporation, TAPDK, scientific institutions and nongovernmental organizations. After receiving the approval of the Ministry of Health, the Radio and Television Supreme Council shall ensure that the programmes prepared are broadcast.</li> <li>Article 5 of Law No. 4207 states that children and young people must be warned about the health hazards of tobacco products and exposure to tobacco smoke. An educational curriculum shall be prepared by the Ministry of National Education, incorporating the views of relevant institutions and nongovernmental organizations.</li> <li>Public information, sensitization and education are included in the national tobacco control programme and action plan (29).</li> </ul> | <ul style="list-style-type: none"> <li>Law No. 4207 states that the Radio and Television Supreme Council inspects the broadcasting times of these programmes.</li> <li>The media campaign was developed by nongovernmental organizations, the Ministry of Health (Smoke-Free Air Campaign) and TAPDK. It includes messages about smoke-free air on radio, television and billboards and in newspapers and magazines. The Ministry of Health and nongovernmental organizations have developed web pages to inform the public about the Law and the media campaign.</li> </ul> <p><i>Limitation. The effects of the media campaign need to be evaluated in more detail.</i></p> |
| Article 13.<br>Tobacco advertising, promotion and sponsorship          | <ul style="list-style-type: none"> <li>Article 4 of Law No. 4207 bans the promotion, advertising and sponsorship of tobacco products.</li> <li>Law No. 4733 makes TAPDK responsible for following up the advertising, sponsorship and promotion of tobacco products.</li> <li>Article 6 of Law No. 4207 defines the responsibilities of the Radio and Television Supreme Council and TAPDK to monitor violations of the related article of Law and to punish individuals or companies.</li> <li>Advertising, promotion and sponsorship of tobacco products are included in the national tobacco control programme and action plan (29).</li> <li>TAPDK's regulation of 2011 regarding the sales points for tobacco products bans the advertisement of tobacco products.</li> </ul>   | <ul style="list-style-type: none"> <li>The Radio and Television Supreme Council inspects tobacco product advertising in the media.</li> <li>The advertising board of the Ministry of Science, Technology and Industry conducts meetings to evaluate violations of tobacco product advertising reported by the public.</li> <li>Tobacco products are sold at sales points licensed by TAPDK.</li> </ul> <p><i>Limitation. A mechanism should be developed to monitor the sales points of tobacco products.</i></p>   |

| WHO FCTC  | Legal status in Turkey  | Implementation in Turkey  |
|---|---|---|
| Article 14.<br><i>Demand reduction measures concerning tobacco dependence and cessation</i> | <ul style="list-style-type: none"> <li>Article 4 of Law No. 4207 states that the Ministry of Health shall conduct the necessary activities intended to develop programmes that encourage people to stop using tobacco products and to ensure the accessibility of medicines for and treatment of tobacco addiction.</li> <li>Smoking cessation is included in the national tobacco control programme and action plan (29).</li> </ul>   | <ul style="list-style-type: none"> <li>A quitline for counselling for stopping smoking was established by the Ministry of Health in October 2010.</li> <li>The Ministry of Health supports the opening of smoking cessation clinics.</li> <li>The Ministry of Health bought 250 000 doses of drugs to give to smokers who apply to smoking cessation clinics.</li> <li>A manual on smoking cessation and combating the use of tobacco has been prepared by an expert group and distributed to doctors working in primary health care units (family physicians). The manual can be seen on the Ministry of Health web page.</li> <li>Some of the associations of medical professionals have organized smoking cessation courses for physicians.</li> </ul> |
| Article 15.<br><i>Illicit trade in tobacco products</i>                                     | <ul style="list-style-type: none"> <li>The illicit trade in tobacco products is covered in the national tobacco control programme and action plan (29).</li> <li>The Customs, the Ministry of the Interior and the Ministry of Justice are responsible for combating the illicit trade in tobacco products and related legal procedures under the Laws.</li> </ul>  |   |
| Article 16.<br><i>Sales to and by minors</i>  | <ul style="list-style-type: none"> <li>Article 4 of the Law states that tobacco products shall not be sold or offered for use to minors aged under 18 years. Article 6 added that those who act against the prohibitions set out in Clause 8 of Article 3 of this Law shall be punished according to Article 194 (Provision of substances dangerous for health) of the Turkish Penal Code No. 5237 dated 26.09.2004. This punishment is defined as six months imprisonment.</li> <li>The Law bans (i) the sale of tobacco products individually, in open packs or in smaller packs, and (ii) the employment of minors aged under 18 years in tobacco companies or tobacco marketing or sales activities.</li> <li>The question of accessibility by young people [to what – tobacco, or treatment for its use?] is a part of the national tobacco control programme and action plan (29).</li> <li>TAPDK's regulation of 2011 about the sales points for tobacco products bans the advertisement of tobacco products.</li> </ul> | <ul style="list-style-type: none"> <li>The Ministry of the Interior is responsible for following up violations of this article and taking people to court.</li> <li>Tobacco products are sold at sales points licensed by TAPDK.</li> </ul> <p><i>Limitation. A mechanism should be developed to monitor the sales points of tobacco products.</i></p>  |
| Article 19.<br><i>Liability</i>   | <ul style="list-style-type: none"> <li>The national tobacco control programme and action plan were developed after ratification of the WHO FCTC.</li> <li>Law No. 4207 of 1996 has been enacted and implemented.</li> </ul>   | <ul style="list-style-type: none"> <li>Implementation of the action plan was started after promulgation of the Prime Minister's circular on the national tobacco control programme, 2006/9 (29).</li> <li>Law No. 5727 of 2008 was implemented in two phases.</li> </ul>  |

| WHO FCTC   | Legal status in Turkey | Implementation in Turkey   |
|--|------------------------|--|
| <i>Article 20. Research, surveillance and exchange of information</i>  |                        | <ul style="list-style-type: none"> <li>• The Ministry of Health coordinates tobacco control policies.</li> <li>• The Ministry of Health is the secretariat of the national tobacco control programme and action plan.</li> <li>• A surveillance system has been developed through inspection teams in the provinces. The data from the surveillance system are evaluated by the Ministry of Health and shared with the community and universities.</li> <li>• Studies of tobacco use among health workers, such as GATS and GYTS, have been conducted with WHO and the Centers for Disease Control and Prevention in Turkey. The reports of the surveys are available on the Ministry of Health web site and some articles from the surveys have been published in journals.</li> <li>• Researchers from universities have published papers about tobacco control policies and activities in national and international journals.</li> </ul> |
| <i>Article 22. Cooperation in the scientific, technical, and legal fields and provision of related expertise</i> |                        | In 2009, experts from the WHO Tobacco-Free Initiative, the International Union Against Tuberculosis and Lung Disease and the Tobacco Treatment Centre in the School of Public Health conducted a capacity assessment study with national experts in Turkey. A follow-up study was carried out in 2010. The results have been discussed with the Ministry of Health and other relevant institutions.  |

## Protection from tobacco smoke

The first anti-tobacco law (No. 4207) was enacted in 1996 and amended in 2008 (Law No. 5727) to cover workplaces in the hospitality industry. In addition, TAPDK has promulgated several regulations to meet some important obligations under the WHO FCTC. The Misdemeanours Act also has articles regarding the implementation of tobacco control legislation (41).

The most powerful items in Law No. 5727 are those banning smoking in indoor public places (31). Article 2 prohibits smoking in many enclosed places, such as:

- indoor areas of public workplaces;
- indoor areas of buildings that are privately owned by legal entities and used for educational, health, commercial, social, cultural, sports or entertainment purposes, including hallways with room for more than one person (except private houses);
- intercity bus, railway, sea and air mass transport vehicles, including commercial taxis;
- the indoor and outdoor areas accepted as part of the premises of preschool educational institutions and primary and secondary schools, including private establishments preparing students for various examinations and cultural and social service buildings;
- restaurants owned by legal entities and entertainment establishments such as cafés, cafeterias and bars.

The Law does, however, make exceptions for some places and permits the provision of separate designated places for the residents of elderly care facilities, hospitals for mental diseases and prisons, and on the decks of ships carrying passengers for intercity and international travel and designated rooms in hotels for smoking guests.

In 2010, the fine for individuals violating the smoking ban in indoor public places was 75 TL (US\$ 48), and much higher fines were payable by the owners of establishments permitting smoking, namely 600 TL to 6000 TL (US\$ 390 to US\$ 3900). Each year, the amount of the fine is escalated in accordance with the budgetary regulations.

### **Offers of help to stop using tobacco**

Smoking cessation services were not well organized until recently. In 2008, however, Article 5/9 of Law No. 5727 dealt with smoking cessation by charging the Ministry of Health to develop programmes encouraging people to stop using tobacco products and to ensure the accessibility of medicines for treating tobacco addiction (31). The bans on smoking in all indoor public places also motivate smokers to stop by making smoking more difficult. In 2011, the Ministry of Health obtained 250 000 doses of smoking cessation drugs and distributed them to the cancer early diagnosis centres and physicians conducting smoking cessation services. The physicians followed a standardized treatment guide and gave the drugs free to smokers who applied to these centres for cessation treatment.

### **Warnings about the dangers of tobacco**

Warnings aimed at smokers in particular and the public in general is one of the key requirements of the WHO FCTC. Law No. 5727 directed the tobacco companies to put written warnings on a rotating basis on packs of tobacco products. The 14 different written warning labels were placed on both sides of the packages. In 2010, the TAPDK directed that written warnings should be replaced by pictorial warnings placed on the main surface of the packs and covering 65% of the area. Two of the written warnings (“Smoking kills” and “Smoking seriously harms you and others around you”) are still placed on the back of the packages alternately. Tobacco companies are also forbidden from putting false or misleading information on the packs, such as “mild”, “light” or “ultra-light” (9).

A unique example of warnings about the dangers of tobacco use is television programmes. The tobacco control laws of 1996 and 2008 directed the Turkish Radio and Television Corporation and all the national, regional or local and private television stations to broadcast educational programmes for at least 90 minutes every month on the hazards of tobacco products and methods of prevention. These programmes were to be broadcast between 08:00 and 22:00 hours, and at least 30 minutes were to be broadcast during prime time between 17:00 and 22:00 hours. Copies of all these programmes have to be delivered regularly to the Supreme Council of Radio and Television. Violations of this duty are punishable with fines of 1000–5000 TL, 5000–10 000 TL and 50 000–250 000 TL for the local, regional and national broadcasting companies, respectively (31).

In addition to these educational programmes and warnings, the Ministry of National Education is charged with preparing an educational curriculum, in collaboration with relevant and nongovernmental organizations, to warn children and young people about the health hazards of tobacco use and exposure to tobacco smoke (31). A special budget head is allocated in the annual budgets of the Ministries of National Education and of Health for the preparation of these educational programmes and cessation services.

### **Enforcement of bans on tobacco advertising, promotion and sponsorship**

Law No. 4207 of 1996 banned all kinds of advertisement and promotion of tobacco products but did not consider sponsorship. Law No. 5727 of 2008 includes the prohibition of any kind of sponsorship by the tobacco industry.

Other measures regarding enforcement of the bans on tobacco advertising, promotion and sponsorship include the following.

- Any form of advertising or promotion of tobacco products by using the products or the producers' names, logos or trademarks is strictly prohibited. Campaigns promoting or encouraging the use of tobacco products are banned. Companies that produce or market tobacco products may not contribute in any manner to any event or activity by using their names, logos or trademarks.
- The names and logos of companies operating in the tobacco industry or the trademarks or logos of tobacco products or any symbols that would remind people of the company or the tobacco products may not be used on clothes, accessories or jewellery.
- Vehicles belonging to tobacco companies shall not bear any kind of sign that can remind people of the brand.
- Tobacco companies are strictly prohibited from distributing their tobacco products to distributors or consumers free of charge or as incentives, gifts, samples or supportive aid.
- No matter what the purpose may be, all forms of announcement or advertisement of tobacco products in the media using the product name, logo or trademark are strictly prohibited.
- Tobacco products may not be displayed on TV programmes, in films, TV series, music videos, advertisements and commercial films, and their images may not be used.
- Tobacco products may not be sold in health, educational, culture and sports facilities.
- Tobacco products may not be sold to or offered for use to minors under 18 years of age.

The Law also includes provisions regarding the marketing and sale of tobacco products.

- Tobacco products shall not be sold individually in open packs or in smaller packs.
- Tobacco products shall not be sold via electronic shopping media, such as telephone or the internet.
- Tobacco products shall not be displayed so as to enable persons aged under 18 years to have direct access to them or so that they can be seen outside the place of sale.
- Chewing gum, sweets, toys, clothes, jewellery, accessories and similar products shall not be produced, distributed or sold in a way suggestive of a tobacco product or tobacco brand.

The Law includes a provision laying down that tobacco products cannot be displayed in such a way that they can be seen from outside the premises. Tobacco products must not be placed on shelves in shops, supermarkets or large street markets. They should be under the control of the owner or the cashiers. Tobacco products must not be reachable by customers and can only be provided by cashiers on request. From July 2011, a new regulation came into force aiming to decrease the visibility of tobacco products by requiring that all tobacco products must now be kept in closed places or boxes and not be visible from outside the premises.

The ban on advertising and promotion has been implemented quite successfully since 1996, with no significant resistance from the tobacco companies. Immediately after it was introduced, the companies started announcing frequent changes of price for their products in the daily newspapers, but TAPDK banned these announcements straight away. A sponsorship ban was also successfully implemented. However, although the Law bans the production of items such as chewing gum, sweets, toys, clothes and accessories that are suggestive of tobacco products, the companies have been trying to stretch these limits by producing some of these materials. They also still try to distribute these kinds of material as well as cigarettes free, employing presentable young ladies for the purpose. Tobacco companies violating this rule can be fined 50 000–250 000 TL (US\$ 32 258–161 290): such fines have been imposed several times.

## Higher taxes on tobacco

Research has shown that a 10% increase in tobacco prices will reduce tobacco consumption by 4–8% (33). Probably the most effective measure to reduce tobacco use is, therefore, to raise prices. Young people and people in low income groups are particularly sensitive to price increases. Since tobacco taxes are one of the main income categories for governments, finance officers are usually sensitive to any reduction in tobacco consumption. When prices are raised by increasing the taxes on tobacco products, the government would not lose any tax revenues from tobacco. This scientific base was explained to the finance officers to convince them to increase taxes on tobacco products. For a long time the taxes on tobacco products represented 65–70% of the retail price, but with the increase in the special consumption tax in October 2011, the total tax increased to 80.3%, well above the level recommended by WHO.

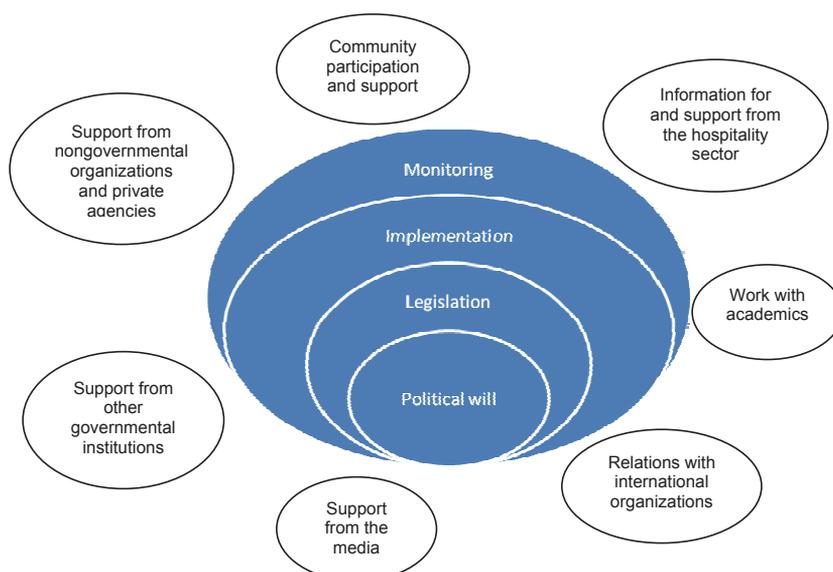
## Monitoring of tobacco use and prevention policies

The above five approaches were found to be the most effective strategies for tobacco control. However, countries also need to follow the impact and effectiveness of the measures implemented by monitoring the prevalence of tobacco use and implementation of the strategies. Although there are no provisions covering monitoring in Law No. 4207, Turkey conducted the GATS in 2008 (to be repeated in 2012) and the GYTS twice, in 2003 and 2009. Since the smoking behaviour of health care professionals and their attitudes towards smoking are important for tobacco control studies, a study of smoking and health care professionals was conducted in 2007 and repeated in 2011. In addition to these systematic surveys, a large number of individual studies of tobacco use and the attitudes of people towards smoking are being carried out among various interest groups all over the country and are giving some idea of behaviour and attitudes in relation tobacco use.

Monitoring should cover the prevalence of tobacco use, tobacco control measures and the tobacco industry's activities. Several surveys have shown public support and compliance increasing after implementation of the tobacco control measures, as well as improvements in indoor air quality and health benefits. As regards monitoring of the tobacco industry, TAPDK receives production data regularly, and possible violations made by the industry have been detected and followed up by the inspection teams.

The essential elements of success in implementing Law No. 4207 are shown in Fig. 13.

Fig. 13. Essential elements of success in implementing Law No. 4207



# IMPACT OF TOBACCO CONTROL MEASURES

The aim of a tobacco control programme is to reduce the use of tobacco and exposure to tobacco smoke, and prevent the harmful effects of tobacco smoke on human health. Tobacco control programmes try to stop people taking up smoking, increase the number who give it up, reduce the amount of tobacco consumed by smokers and protect people from exposure to second-hand smoke. These criteria could also be used to evaluate the effectiveness of the tobacco control activities.

The most cost-effective tobacco control measures are higher tobacco taxes, elimination of tobacco advertising and promotion, the introduction of smoke-free environments and strong pictorial health warnings on tobacco packaging. Any tobacco control intervention has an effect on the indicators that show the smoking status of the community. For example, raising tobacco taxes prevents people from beginning to smoke and motivates smokers to stop or to cut down. Smoke-free environments not only protect non-smokers, they also help smokers to cut down or stop. They also create an environment that decreases the social acceptability of smoking, which helps to prevent people taking up smoking.

## **Tobacco use**

### ***Prevalence data***

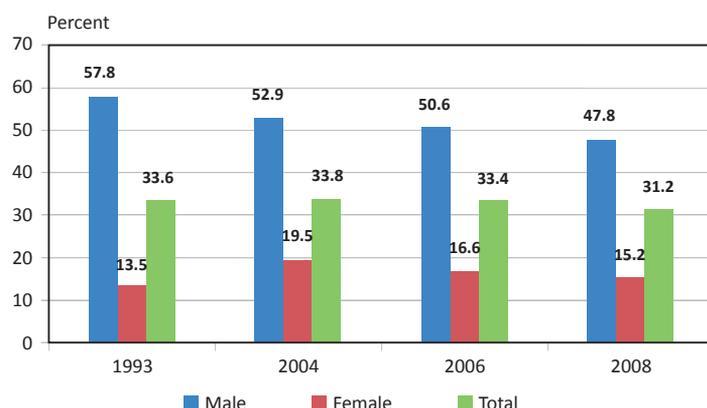
The prevalence of tobacco use is one of the most important indicators of the effectiveness of a country's tobacco control programme. A few studies provide countrywide data on the prevalence of tobacco use in Turkey (8).

### **General**

Changes in the policies on production and sale of tobacco in 1980 led to an increase in the prevalence of smoking. In 1988, the first countrywide study conducted by the Ministry of Health found the prevalence to be 44% (males: 62%, females: 25%) among the group aged 15+ years. In 1993, the prevalence was 33.6%, showing that smoking was still highly prevalent.

The enactment of Law No. 4207 in 1996 introduced the first strong tobacco control policy and led to a decrease in smoking among adults. The overall steady decline in male smoking prevalence of 8.5% over more than 10 years, from 57.8% in 1993 to 52.9% in 2004, is believed to be the effect of the Law (24,42–44). Fig. 14 shows the prevalence of smoking since 1993.

Fig. 14. Smoking prevalence in 1993, 2004, 2006 and 2008 (%)



Sources:

1993 Ministry of Health Survey (42)

2004 Ministry of Health, National Burden of Disease Study (24)

2006 Family Research Institution, Family Structure Survey (43)

2008 Global Adult Tobacco Survey (44).

The 2008 GATS in Turkey showed that almost one third (31.2%) of adults aged 15+ years were currently smoking, representing 16 million adults. Men (47.8%) were more likely to smoke tobacco than women (15.2%). Approximately 12 million men and 4 million women currently smoked tobacco (8).

The second phase of Law No. 5727 was implemented in July 2009 and the prevalence data have not yet been investigated. However, some local studies carried out in risk groups give some clues to the decrease in the rate of smoking.

The ban on smoking indoors is having some effect on reducing the number of cigarettes smoked. This finding was supported by local studies conducted after the second phase implementation of the Law. Some of these are presented below.

In 2010, the Society of Public Health Specialists conducted a study among customers and owners/employees in the hospitality sector in eight cities (45). Those who smoked said that they reduced their smoking after the second phase implementation. One in two owners who smoked said that they had reduced the number of cigarettes they smoked daily, while one in three owners said that they were not affected and were smoking as before. For customers in the hospitality sector, these percentages were 27.0% and 45.1% (Table 14).

Table 14. Changes in smoking behaviour of customers and owners/employees in hospitality workplaces following second phase implementation of Law No. 5727, Ankara, 2010 (%)

| Smoking behaviour                         | Customers | Owners/employees |
|---|-----------|------------------|
| Not affected, continue to smoke as before | 45.1      | 34.2             |
| Affected, decreased                       | 27.0      | 50.0             |
| Affected, increased                       | 5.7       | 0.9              |
| Not aware                                 | 22.1      | 14.9             |
| Total                                     | 122       | 114              |

Source: Özcebe H, Bilir N, Aslan D (45).

### **Studies among young people**

The GYTS was carried out twice, in 2003 and 2009. No nationwide study has been undertaken to follow up the prevalence of smoking among adolescents or young people since 2009. The GYTS indicated that there was an increase in smoking prevalence among adolescents between 2003 and 2009. The second GYTS was conducted before the second phase implementation, so its results could not sufficiently explain the effects of the Law on the prevalence of tobacco-smoking in adolescents.

According to the 2009 GYTS, 52.8% of adolescents said they could buy tobacco products from grocery stores or supermarkets, while 7.4% said that representatives of the tobacco industry had given them free cigarettes. Despite the Law, the tobacco industry continues to reach adolescents and to promote tobacco products to them (16).

Some local studies have produced results on the smoking prevalence among young people. The International Children's Centre conducted a similar study in universities. A baseline study was carried out among first-year students of six universities in February 2005, with a follow-up study among first-year students of the same universities in December 2009. A total of 2235 first-year students in 2006 and 2259 students in 2009 were included in the survey. The prevalence of current smoking among the students was 22.2% in 2005, falling to 20.7% in 1999, while the percentage of those who had never smoked rose from 42.1% in 2005 to 49.9% in 2009. One explanation for these changes could be the implementation of the Law No. 5727 (46).

Adolescents tended to stop smoking after the Law was implemented. Two cross-sectional studies were conducted among the students of primary (6–8 grades) and secondary schools (9–12 grades) in the city centre of Mardin in eastern Turkey in 2007 and 2010. The aim of the study was to define the effects of Law No. 5727 among the adolescents. The studies reached 1008 adolescents in 2007 and 1167 in 2010. Smoking prevalence among primary schoolchildren was 6.9% in 2007 and 6.7% in 2010. Although smoking prevalence among girls fell from 2.3% to 1.4%, the percentage of smoking among boys rose from 9.7% to 11.4%. Smoking prevalence among secondary school students was 12.7% (males: 17.0%, females: 4.4%) in 2007 and 10.7% (males: 17.4%, females: 2.5%) in 2010 (47).

### **Studies among health professionals**

Smoking prevalence among health care professionals, particularly physicians, has fallen during the last 15–20 years. Previous studies showed that almost half (41.1–49.3%) of the physicians were smoking, while a more recent survey revealed that 30.5% of the general practitioners and 22.1% of the specialists were smoking (Table 7) (1,13).

Even though these figures are still too high compared with physicians in most European countries, the decrease is, nevertheless, considerable. There was a much lower smoking prevalence (18.6%) among the staff working as residents in one of the biggest medical schools in Ankara. In February 2011, the prevalence of smoking among research assistants in one of the biggest medical faculties was investigated. Although the study was descriptive, it gives some clues about the perception of the anti-tobacco Laws. The prevalence of smoking was 18.6%, 12.2% had stopped smoking, and 69.2% had never used tobacco. The reasons for stopping smoking or not starting to smoke included family factors (78.6%), friends (62.4%), the school environment and curriculum of the grade (35.9%), activities of tobacco group in the school (2.6%), the media (6.0%), the new tobacco law (1.7%) and the price of tobacco (2.6%). Besides the social environment, media and tobacco control strategies were also said to be effective in bringing down the prevalence of smoking in the community (48).

The prevalence of smoking among nurses who started work in 2004–2009 was investigated at the hospitals of the Faculty of Medicine in Ankara University. This showed that 5.8% were smoking less, 8.4% had tried to stop, 4.9% had stopped smoking in the previous year and 7.1% had stopped smoking for more than a year. The reasons for stopping smoking or not starting

to smoke included family factors (78.4%), friends (48.9%), vocational training (21.5%), the job environment (11.5%), activities of the tobacco group at school (0.5%), the media (25.8%), the new anti-tobacco law (Law No. 5727) (4.3%), the price of tobacco (1.7%) and others (23.0%). The provisions of the Law were found to be effective in decreasing the prevalence of smoking among health professionals (49).

### **Smoking during pregnancy and breastfeeding**

Several studies have been conducted among different risk groups such as pregnant women and children to show the effects of smoking and passive smoking in Turkey. The main results of the studies pointing to the new problems related to tobacco are given below.

Smoking during pregnancy is a problem in Turkey. A survey was conducted at a maternity clinic and 1020 pregnant women were reached during the routine follow-up visit (50). Their smoking rates before and after pregnancy were 34.7% and 14.0%, respectively, and passive exposure to tobacco smoke was seen in 69.2%. The number of cigarettes smoked before pregnancy had a significant impact on continuation of smoking during pregnancy. Most of the pregnant women (97.5%) knew that smoking was harmful. Although they had some degree of knowledge about the adverse effects of smoking, there is clearly a strong need for education about stopping smoking during pregnancy. The highest priority should be given to preventing passive smoking.

The Society of Public Health Specialists interviewed pregnant women who were admitted to a tertiary maternity hospital in Ankara for delivery. Of 176 mothers-to-be, 10.8% reported that they had smoked during their pregnancies and 55.1% had been exposed to second-hand smoke. The mean urinary cotinine level of non-smokers (n=77) was 47.09 ng/ml and in smokers it was 283.49 ng/ml. Among non-smokers, the mean urinary cotinine level of those who reported exposure to second-hand smoke (n=35) was 64.70 ng/ml as against 25.95 ng/ml in women who claimed not to be exposed to second-hand smoke (n=42). Pregnant women should be counselled about the health hazards of both cigarette-smoking and second-hand smoke. Exposure to second-hand smoke among pregnant women might also be more frequent than reported by the women in the study (45).

A study conducted among pregnant women in one of the big maternity hospitals in Ankara evaluated urinary cotinine levels. Infants of smoking mothers showed statistically significantly higher urinary cotinine levels than the levels in infants of non-smoking mothers. Maternal smoking was found to increase the urinary cotinine level by 541 times and breastfeeding increased it by 171 times, whereas the early start of formula feeding decreased it by 63 times. The authors recommended that mothers should be encouraged to stop smoking during the breastfeeding period even if they avoid exposing their infants to passive tobacco smoke (51).

Another study aimed to determine the effect of passive tobacco-smoking on growth and the frequency of infection in infants. This found that exposure of infants to tobacco smoke has negative consequences on growth, otitis media and upper and lower respiratory tract infections among 6–7 month-old infants (n=254). Multivariate analysis of factors influencing lower respiratory tract infections showed that the rate increased 9.1-fold when the mothers smoked, and another smoker in the home increased it by a factor of 40.1. Multivariate analysis of factors influencing upper respiratory tract infections showed that the rate increased by a factor of 23 when the mothers smoked, and by a factor of 15 when the fathers smoked. Multivariate analysis of factors influencing otitis media found that the rate increased by a factor of 9.4 when the mothers smoked and 6.15 when the fathers smoked (52).

A further study found that smoking during pregnancy caused serious deficits in infants' growth, even after birth. Mean birth weights were 3445.37 g in infants of non-smoking mothers and 3198.96 g in infants of smoking mothers ( $p < 0.05$ ). Infants of mothers exposed to second-hand smoke were found to have a birth-weight difference of -66.42 g compared with infants of non-exposed mothers. The weight difference between infants of smoking and non-smoking

mothers at the three-month visits was -684.27 g; at the six-month visit, the deficit increased to -753.12 g. Infants of mothers exposed to second-hand smoke also showed weight deficits at the six-month control examination compared with babies of non-exposed mothers (-130.43 g). It is, therefore, essential to inform women who smoke before they get pregnant about possible growth retardation in infants (53).

Although a smoking ban has been in force in public places since 2008, studies show that pregnant women can still be exposed to tobacco smoke in public places and in their homes.

### **Sales data**

Another indicator of tobacco control activities in the short term is the number of cigarettes sold. This indicator can also be used to show the effectiveness of the tobacco control programmes. Data on the number of cigarettes sold can be obtained more easily than data on smoking prevalence in Turkey.

There was a rising trend in the sale of cigarette sticks until 2000, when it flattened off before decreasing slightly. This decrease is mainly attributable to Law No. 4207 of 1996. Following the introduction of Law No. 5727 in 2008, a marked decrease in sales was observed, to the lowest figure in the last 15 years in 2010. Since this Law banned smoking in all enclosed places, smokers found it difficult to smoke and many of them gave up (Figs. 2, 3) (1).

Law No. 4207 had some effect on reducing the number of cigarettes sold, but it is also known that the price of tobacco had a negative effect on demand. Estimations on elasticity indicate that demand for cigarettes is more responsive to price in Turkey.

In January 2010, the specific tax was increased to 2.65 TL (US\$ 1.71) per pack and the *ad valorem* tax was increased to 63% of the retail price. In addition to the *ad valorem* and specific excise taxes, all cigarettes are subject to an 18% statutory VAT amounting to 15.25% of the retail price of cigarettes, inclusive of VAT. The total tax on tobacco is, therefore, 78% on January 2010. Yürekli et al produced some estimates on adult smoking prevalence by using the tax increase of 2010. They estimated that the resulting price increases would decrease adult smoking prevalence by about 3.5%, reducing the number of adult smokers by 590 631. It is thought that the increase in tax had some effects on the decrease in the number of cigarettes sold in 2010 (33).

### **Quitting**

One of the objectives of the tobacco control programme is to provide opportunities for smokers to stop smoking. The percentage who do is an indicator of the effectiveness of the programmes.

GATS was conducted in Turkey before the first phase implementation of Law No. 5727 in 2008, and only two years have passed since the second phase implementation started in July 2009. Based on the GATS 2008, 15.9% of people aged 15+ years had stopped smoking (8). The next GATS, which will aim to find out the positive effects of the tobacco control laws, has not yet been conducted so there is no national figure for the number of people who have stopped smoking since the implementation of Law No. 4207. Some small-scale studies have, however, been carried out.

Smokefree workplaces create an environment that encourages smokers to cut back or stop. The ban on smoking in closed and common areas is causing smokers to change their behaviour. It is very difficult for some employees in factories, shopping malls, schools, the hospitality sector and so on to leave their workplaces to smoke during working hours. In some jobs it is almost impossible: employers would not allow workers to smoke during their shifts, while some workplaces are enclosed, making it impossible to smoke. Managements encourage their employees to look after their health by carrying out campaigns and activities,

some of which aim at persuading smokers to stop. Media activities relating to tobacco control also have an impact on smoking habits. All these factors are important in persuading workers to give up smoking.

### Numbers giving up smoking

The study carried out by the Society of Public Health Specialists in 2010 investigated the smoking behaviour of bar and restaurant employees in Ankara. Data collection took place in June 2009, a month before the new Law (No. 5727) came into force. The participation rate of employers was 100.0% (n=19), while the overall response rate for the employees (n=65) was 97.0%. In the second phase of the study, in October 2009, the same pattern of data collection was repeated in the same bars and restaurants, on the same day and time as the first study, three months after implementation of the Law in the hospitality sector. Of the initial 65 participants, 41 (63.1%) employees were available to re-participate, so four additional premises in the same area were visited to include 40 new participants. Finally, data were obtained from 65 employees before the implementation of the Law and 81 employees afterwards. These two groups were found to be statistically similar with respect to their mean age, gender, educational attainment and tobacco use ( $p>0.05$ ) (45).

The frequency of current smokers among the employees surveyed before the implementation of the Law (61.5%) was similar to the frequency afterwards (63.0%). Of the employees who smoked (n=54), who were surveyed three months after implementation of the Law, 60.8% reported that they were smoking less and 3.9% said that they had stopped smoking. The mean number of cigarettes smoked was also found to be lower after implementation of the Law in the hospitality sector. Of the employees who smoked, the mean number of cigarettes smoked per day was  $23.24\pm 13.66$  before the implementation of the Law, dropping to significantly lower ( $16.48\pm 10.38$ ) three months after implementation ( $p=0.01$ ). Furthermore, the percentage of smokers among the employees who said they wanted to stop rose from 57.5% to 66.7% (45).

Some professionals are important role models, especially for children and young people, so some local studies have been conducted to show the prevalence of smoking among different professional groups. One of these, conducted before the second phase implementation of the Law, aimed to identify the level of smoking among teachers in the city of Bursa and to find out their opinion about the Law prohibiting smoking in closed areas. A total of 8291 teachers, composed of 3519 men (mean age  $40.6\pm 0.1$ ) and 4772 women (mean age  $34.9\pm 0.1$ ), were reached. A smoking ratio of 33.6% was found for male teachers and 25.4% for female teachers, and 61% of them thought that the prevalence of smoking fell among teachers after the first phase implementation of the Law (54).

Another study aimed to determine the effect of the ban on smoking in enclosed spaces on doctors and nurses stopping smoking in one city in eastern Turkey. The subjects were nurses and doctors who had smoked for a period of their lives and who had worked between 15 November 2008 and 15 November 2009 in clinics of the Yakutiye and Aziziye research hospitals of Ataturk University Suleyman Demirel Medical Centre. It was found that 16.2% of the doctors and 33.3% of the nurses gave up smoking after the ban; 36.1% of the doctors and 47.8% of the nurses who continued to smoke reduced the number of cigarettes they smoked daily; and 44.4% of the doctors and 33.3% of the nurses were thinking of giving up smoking (55).

Smoking prevalence among high school children was investigated twice, in 2007 and 2010, in one city in eastern Turkey. The percentage who stopped smoking was 6.4% in 2007 and 8.6% in 2010. Increasing numbers of adolescent boys and girls were giving up smoking: boys – 8.9% in 2007 and 12.2% in 2010, and girls – 2.3% in 2007 and 4.5% in 2010. While the number of primary school children giving up smoking dropped from 5.9% in 2007 to 5.7% in 2010, the trend in secondary school children moved in the opposite direction (6.9% in 2007 to 11% in 2010). A higher percentage of boys than girls at secondary schools gave up smoking. This study shows that adolescents tend to stop smoking in their final years at school (47).

### Numbers thinking about stopping smoking

The percentage of smokers thinking about stopping smoking provides an understanding of the effects of the anti-tobacco laws on smoking in the community. According to the findings of the project conducted by the Society of Public Health Specialists among customers, owners and employees in the hospitality sector in eight cities after the second phase of implementation of the law, 40.2% of the customers and 22.4% of the owners/employees said that they had thought about stopping (Table 15).

Table 15. Customers and owners/employees in the hospitality sector thinking about stopping smoking after the law

| Stopping smoking                    | Customers | Owners/employees |
|-------------------------------------|-----------|------------------|
| Thinking about stopping smoking     | 40.2      | 22.4             |
| Not thinking about stopping smoking | 59.8      | 77.6             |
| Total                               | 122       | 116              |

Source: Özcebe H, Bilir N, Aslan D (45).

### Health services for smoking cessation

The numbers of people admitted to smoking cessation clinics or telephoning the smoking cessation quitline are indicators of attitudes towards stopping smoking. The quitline for counselling for stopping smoking was set up by the Ministry of Health in October 2010 and is open round the clock. Almost one million people called it during its first five months of operation. More operators were employed, which reduced the waiting time and increased the average duration of answered calls. The average waiting time in June 2011 was 0.7 minutes, 3.1 minutes less than a year earlier (Table 16) (22).

Table 16. Some indicators for the smoking cessation quitline (27 October 2010–12 June 2011)

| Dates                           | Number of operators | Total number of calls | Total number of calls answered (min) | Total duration of calls (min) | Average duration of answered call (min) | Average waiting time (min) |
|---------------------------------|---------------------|-----------------------|--------------------------------------|-------------------------------|---|----------------------------|
| 27 October 2010–17 January 2011 | 15                  | 460 399               | 106 887                              | 1 526 963                     | 3.4                                     | 3.1                        |
| 18–31 January 2011              | 44                  | 93 566                | 57 530                               | 291 686                       | 3.5                                     | 2.5                        |
| 1–28 February 2011              | 44                  | 201 636               | 168 573                              | 913 640                       | 4                                       | 3.7                        |
| 1–31 March 2011                 | 107                 | 189 531               | 173 832                              | 377 222                       | 2                                       | 1.1                        |
| 1–30 April 2011                 | 203                 | 94 437                | 101 224                              | 141 037                       | 2.5                                     | 0.4                        |
| 1–31 May 2011                   | 116                 | 85 151                | 99 452                               | 130 513                       | 2.7                                     | 0.4                        |
| 1–12 June 2011                  | 116                 | 88 172                | 128 765                              | 187 547                       | 3.0                                     | 0.7                        |

Source: Ministry of Health (22).

The Ministry of Health supports the opening of smoking cessation clinics. In June 2011, there were 232 such clinics working under the Ministry. General practitioners, family physicians, psychiatrists, public health physicians and chest physicians work in these clinics. It is proposed that pharmacotherapy should also be available, when necessary, in addition to psychosocial support after evaluating the level of nicotine dependency. There are also private smoking cessation clinics (22).

Smoking cessation services for the treatment of tobacco dependence are not covered by the health insurance system. However, the Ministry of Health has bought 250 000 doses of drugs for smokers who apply to smoking cessation clinics in order to support their activities. These medicines are distributed free in the Ministry of Health clinics (22).

A manual on combating tobacco and on smoking cessation has been prepared by an expert group and distributed to doctors working in Ministry of Health primary health care units (family physicians). The manual can be found on the web page of the Ministry of Health (22).

Some of the medical professional associations (Turkish Thoracic Society, Society of Public Health Specialists, etc.) have organized smoking cessation courses for physicians. These are conducted in different areas of the country to allow doctors who are interested in working in smoking cessation to get to them (56,57).

In 2009, 35 000 smokers applied to Ministry of Health smoking cessation clinics. In 2010 this figure rose to 120 000, and in the first three months of 2011 it was 98 000 (22).

Another study investigated the general attitude of a sample of general practitioners (n=185) in one city towards tobacco dependence and assessed their knowledge and behaviour regarding smoking cessation before the implementation of Law No. 4207. Only 17.3% of them said that they had received formal training in approaches to smoking cessation during their medical education. Among the physicians, 13.5% said that they had not advised any of their patients to stop smoking during the month preceding the study. The most common barriers reported by general practitioners to discussing smoking cessation with their patients were as follows: considering the discussion and counselling not to be effective (57.8%), having low confidence in his/her knowledge (48.1%), and having an unpleasant personal experience or considering it a thankless task (46.1%). The researchers concluded that it is essential to improve training for general practitioners on smoking cessation procedures if smoking cessation treatment is to be integrated into the primary health care services (58).

A community-based intervention project aiming to prevent cardiovascular diseases determined people at high risk in the first screening programme. Smokers were referred to the smoking cessation clinic established as part of the project, and were then invited to be involved in the follow-up part of the project (n=1390). Of the target group, 54% were reached at home. Among the smokers, 6.7% stopped smoking by themselves and 67.3% applied to the clinic. Smokers who were thinking about or trying to stop smoking needed to have more counselling than the others. The authors recommended efforts to raise awareness about stopping smoking and that there should be more smoking cessation clinics (59).

## **Smoke-free status**

### ***Perceptions about smoking behaviour***

The very high prevalence of smoking, especially among men, means that most people in the community accept smoking as normal male social behaviour. One of the main objectives of the laws to bring about a non-smoking society is to change the perception of smoking to make it unusual behaviour. Messages from the government about the right to clean air were strongly emphasized in the media as part of advocacy for the Law, in the expectation that the public would absorb them.

Studies have shed light on people's thoughts about their right to breathe clean air and how they advocate it. The study by the Society of Public Health Specialists of owners/employees and customers in the hospitality sector also aimed to learn their thoughts about the right to clean air and about passive smoking by asking whether they thought that smokers should ask permission from those around them before smoking (45). Smokers and non-smokers had different points of view on this. Before the second phase implementation, 66.4% of non-smoking customers

thought that smokers should ask others' permission before smoking, whereas afterwards, 91.4% did. There was a difference in the perspective of customers and owners/employees on this point: the percentage of owners/employees who thought that smokers should ask permission before smoking before the second phase implementation of Law No. 5727 barely changed afterwards (Table 17) (60,61).

Table 17. Opinions of customers and owners/employees of hospitality venues as to whether smokers should ask permission from other people before smoking (before and after second phase implementation of Law No. 5727) (%)

| Permission before smoking               | Customers |       | Owners/employees |       |
|---|-----------|-------|------------------|-------|
|   | Before    | After | Before           | After |
| Smokers (n)                             | (192)     | (122) | (209)            | (116) |
| Smokers should ask others' permission   | 24.0      | 24.5  | 25.4             | 8.6   |
| People usually get others' permission   | 45.6      | 56.6  | 45.0             | 31.3  |
| I ask others' permission before smoking | 72.4      | 59.8  | 68.8             | 31.3  |
| Non-smokers (n)                         | (122)     | (197) | (103)            | (78)  |
| Smokers should ask others' permission   | 66.4      | 91.4  | 50.5             | 50.0  |
| People usually get others' permission   | 61.9      | 80.8  | 47.3             | 61.5  |

Source: Özcebe H, Bilir N, Aslan D (45).

### **Knowledge about legislation**

The public should be given accurate information about the Law immediately. Some studies carried out before the second phase implementation of Law No. 5727 showed that almost all of the owners and employees had heard about the Law and knew when it would be implemented. The customers and owners/employees of hospitality venues studied said that their main source of information about the Law was the media. However, 14.3% of the customers said that their source was friends and neighbours – up from 7.2% in the baseline study. This change might indicate that the Law had become a general topic of conversation (Table 18) (45). Studies showed that the Law was well accepted by the community in general, including among taxi-drivers, and people were reasonably well informed about the provisions for fines (62,63).

Table 18. Sources of information about Law No. 5727 among customers and owners/employees of hospitality venues in eight cities, 2008 and 2009 (%)

| Source of information                         | Customers | Owners/employees |
|---|-----------|------------------|
| <i>Before the second phase implementation</i> |           |                  |
| Media   | 96.4      | 94.2             |
| Friends, neighbours                           | 7.2       | 9.0              |
| Schoolteacher                                 | 0.7       | 0.3              |
| Health professional                           | 7.2       | 1.6              |
| Total   | 315       | 312              |
| <i>After the second phase implementation</i>  |           |                  |
| Media   | 98.1      | 97.7             |
| Friends, neighbours                           | 14.3      | 7.6              |
| Schoolteacher                                 | 5.7       | –                |
| Health professional                           | 2.9       | 2.6              |
| Total   | 320       | 302              |

Source: Özcebe H, Bilir N, Aslan D (45).

Warning messages on cigarette packs are an effective method of informing people generally, and smokers in particular, about the dangers of tobacco use. Pictorial warnings are more effective than written ones. Alternating written messages were introduced in 2005 and were replaced by pictures in May 2010. Studies conducted among young people and adults showed that messages regarding the harm smoking can cause to babies and children and its effect on fertility had the strongest effect (64–67).

### Acceptance of Law No. 5727 of 2008

Smoking indoors has long been accepted as normal so it was difficult for the indoor smoking ban to be accepted when Law No. 5727 was introduced in 2008. Some local studies were carried out to understand public reaction to the Law.

#### General public

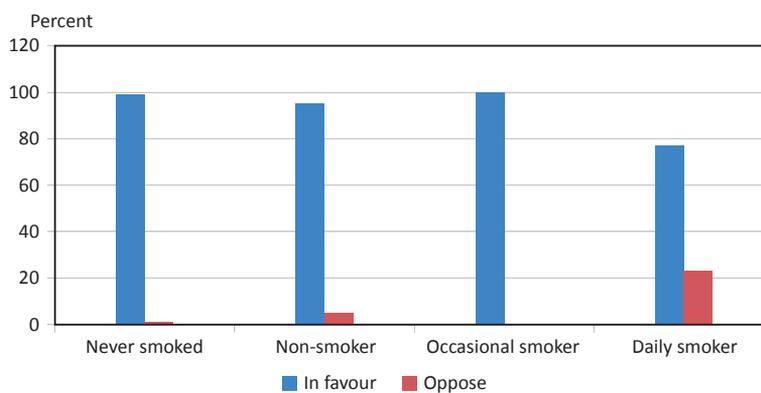
Quirk Global Strategies carried out opinion research among 600 urban adults in 16 cities 22 months after the second phase implementation. This showed that a majority of people (92%) supported the Law banning smoking in most indoor places and workplaces, including in restaurants, bars, cafés and tea-houses. Public support was high, even among the daily smokers: 77% of them and almost all of the non-smokers were in support (Fig. 15) (68).

Support was high among different demographic groups and geographical regions and in both sexes. Most people did not change their lifestyles: 79% said they went out more often to restaurants, bars and tea-houses or had not changed their habits. Only 14% went out less than before (Fig. 16) (68).

#### Young people

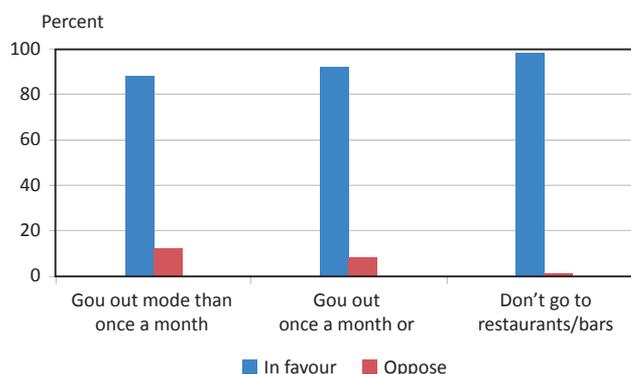
The results of a study conducted among university students (n=512) in 2010, a year after the implementation of Law No. 5727, showed that most of the young people (81.8%) supported the indoor smoking ban – 45.0% of the smokers and 93.1% of the non-smokers. Almost 39% of the students thought that the ban was motivating smokers to stop smoking, and 34% believed that fewer were starting to smoke (69). Another study carried out among university students (n=5346) found that 82.5% supported the ban (70).

Fig. 15. Support for Law No. 5727 among people interviewed in May 2010 (%)



Source: Quirk Global Strategies (68).

Fig. 16. Changes in respondents' habits about going out to restaurants, bars and tea-houses after the second phase implementation of Law No. 5727 (%)



Source: Quirk Global Strategies (68).

### People working in public institutions

The Law affected people working in public institutions. A study carried out in Isparta city centre in 2009 showed that 92.3% of the workers interviewed (n=261) supported the indoor smoking ban, and that support was higher among non-smokers (82.8%) than among smokers (50.0%) (71).

### Owners/employees of hospitality venues

The owners/employees of hospitality venues are another target group to convince that exposure to second-hand smoke is harmful for everybody, smokers and non-smokers alike. Some local studies have been carried out to elicit the reactions of owners and employees of hospitality venues to tobacco control, and especially the indoor smoking ban. Most of the owners/employees in hospitality venues are men, and they have a higher smoking prevalence than the male prevalence nationally: 67.1% vs 47.9%. Before the Law was implemented, both customers and owners/employees thought that it would be difficult. Afterwards, however, their beliefs changed markedly as they realized that implementation would pose no difficulties (Table 19) (45).

Table 19. Opinions of customers and owners/employees of hospitality venues in eight cities about the difficulty of implementing Law No. 5727, 2008 and 2009 (%)

| Implementation of the Law                     | Customers | Owners/employees |
|---|-----------|------------------|
| <i>Before the second phase implementation</i> |           |                  |
| Easy  | 13.3      | 11.7             |
| Difficult                                     | 60.0      | 73.0             |
| Depends on public acceptance                  | 26.7      | 15.2             |
| Total   | (315)     | (315)            |
| <i>After the second phase implementation</i>  |           |                  |
| Easy  | 17.5      | 13.5             |
| Difficult                                     | 18.4      | 21.9             |
| Depends on public acceptance                  | 64.1      | 64.6             |
| Total   | (320)     | (319)            |

Source: Özcebe H, Bilir N, Aslan D (45).

Before the second phase implementation, 79.4% of non-smoking customers and 64.4% of owners/employees supported it. After the second phase implementation, support increased among non-smoking customers and owners/employees (to 96.0% and 74.8%, respectively) but fell among smoking customers and owners/employees (to 20.5% and 50.4%, respectively) (Table 20) (45).

Table 20. Changes in support for Law No. 5727 among customers and owners/employees of hospitality venues in eight cities, 2008 and 2009 (%)

| Support for Law No. 5727                      | Customers   |         | Owners/employees |         |
|---|-------------|---------|------------------|---------|
|   | Non-smokers | Smokers | Non-smokers      | Smokers |
| <i>Before the second phase implementation</i> |             |         |                  |         |
| Definitely in support                         | 39.7        | 12.5    | 23.8             | 9.3     |
| In support                                    | 39.7        | 26.6    | 40.6             | 31.2    |
| Don't know                                    | 11.6        | 16.1    | 14.9             | 7.3     |
| Not in support                                | 5.0         | 29.2    | 8.9              | 22.0    |
| Definitely not in support                     | 4.1         | 15.6    | 11.9             | 30.2    |
| Total   | 123         | 194     | 101              | 205     |
| <i>After the second phase implementation</i>  |             |         |                  |         |
| Definitely in support                         | 77.3        | 9.0     | 40.6             | 17.1    |
| In support                                    | 18.7        | 11.5    | 34.2             | 33.3    |
| Don't know                                    | 2.5         | 27.0    | 8.4              | 4.3     |
| Not in support                                | 1.5         | 36.9    | 13.9             | 33.3    |
| Definitely not in support                     | –           | 15.6    | 3.0              | 12.0    |
| Total   | 198         | 122     | 202              | 117     |

Source: Özcebe H, Bilir N, Aslan D (45).

Customers and owners/employees interviewed in the hospitality sector considered that the sector would lose customers when the indoor smoking ban was introduced. However, after the second phase implementation, owners/employees changed their minds, saying that the number of customers would not be affected (Table 21) (45). In another study conducted in a city in eastern Turkey, most of the owners and employees of hospitality venues believed that the Law could be implemented successfully because of the smoking ban (72).

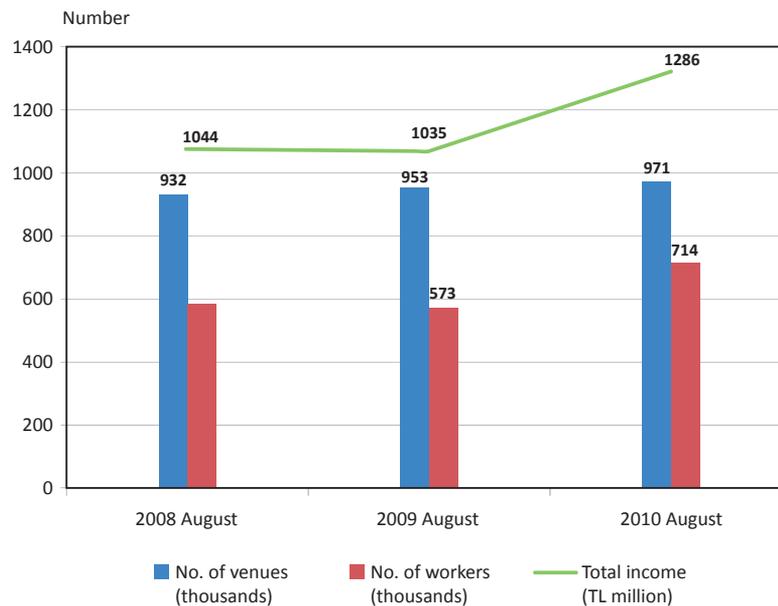
Table 21. Opinions of customers and owners/employees of hospitality venues in eight cities about changes in the number of customers after the second phase implementation of Law No. 5727, 2008 and 2009 (%)

| Changes in the number of customers            | Customers | Owners/employees |
|---|-----------|------------------|
| <i>Before the second phase implementation</i> |           |                  |
| Increase                                      | 3.5       | 2.7              |
| No change                                     | 14.6      | 14.2             |
| Decrease                                      | 81.9      | 83.0             |
| <i>After the second phase implementation</i>  |           |                  |
| Increase                                      | 4.7       | 4.0              |
| No change                                     | 26.6      | 45.4             |
| Decrease                                      | 49.7      | 57.2             |
| Not known                                     | 19.1      | –                |
| Total   | 320       | 297              |

Source: Özcebe H, Bilir N, Aslan D (45).

The number of hospitality venues, their income and number of workers at these venues were measured one year before, immediately after and one year after the introduction of the ban on smoking in hospitality venues showed increases in all three parameters (22) (Fig. 17).

Fig. 17. Number of hospitality venues, their income and number of workers one year before, immediately after and one year after the introduction of the smoking ban in hospitality venues, 2008–2009 and 2010



Source: Ministry of Health (22).

### Taxi-drivers

In spite of the high smoking rate among taxi-drivers, 80.0% of them expressed their support for the smoking ban. Non-smokers (90.7%) were more in favour of the ban than smokers (72.8%). About 81.5% believed that riding in a smoke-free taxi would be more pleasant for clients, and 73.3% believed the new legislation would protect taxi-drivers' health (63).

### Teachers

Another important target group is teachers, who are role models especially for children and adolescents. Studies carried out among teachers showed that they were satisfied with the Law. Almost all the teachers (97.1%) believed the ban was necessary and thought that smokers had started to give up smoking (54,73).

### Compliance with legislation

Some small-scale studies have also investigated compliance with Law No. 5727 among owners in the hospitality sector. The level of compliance was investigated twice among coffee-houses in one district of Ankara, one month after the second phase implementation of Law No. 5272 and again two years later. Customers who smoked said that the Law was more about advocating the right to smoke-free air and was not a restriction on smoking behaviour; 73.6% of them, and 96.1% of the non-smokers, were found to be pleased with the smoke-free environment. The second study showed greater support for the Law, with more smokers (87.7%) pleased with the clean air in coffee-houses. The results of the two studies emphasized that coffee-house customers were generally in favour of the Law, although they seemed to refrain from taking action when it was violated. The two studies showed that more non-smokers than smokers were in favour of the law (60,61).

Smoking was still a problem in 57.1% of enclosed spaces; 67.9% of the establishments studied had complied with the regulations regarding the ban, and in 39.3% of them inspections were carried out to enforce the ban as part of the study conducted in the city centre of Ankara. The frequency of cigarette-smoking was low in enclosed areas when inspections were carried out regularly. The authors concluded that although compliance with the Law among employers and employees was found to be low, support for and satisfaction with the Law was high. This might have been due to the lack of supervision and sanctions (74).

A survey conducted among university students found that 12.4% of students and 19.3% of academics had observed violations of the indoor smoking ban (70).

Although taxi-drivers were mostly aware of the hazards of smoking and supported the ban on smoking in taxis, many of them smoked in their own taxis. A study of taxi-drivers in Ankara revealed that more than half of them (55.2%) knew that smoking was banned in taxis and 66.8% supported the ban. Two thirds (63.9%) of the drivers smoked; over half (52.2%) of them had tried to stop and 54.8% were still thinking about it. However, more than half of them allowed passengers to smoke in their taxis and 61.0% of the drivers said that they smoked in their taxis (75).

### Inspections

A strong and comprehensive law is essential for successful tobacco control. For this to work, it is important that the level of compliance with and implementation of the legislation should be subject to inspection. Law No. 5727 lays down the mechanism for inspection and gives the appropriate duty and responsibility to the governors at provincial level. The governors are asked to form provincial tobacco control boards and to invite representatives of the government and nongovernmental organizations to be members. The boards meet regularly to plan and implement tobacco control measures in the provinces, following the procedure laid down in the Law.

Law No. 4207 of 1996 did not clearly set out the mechanism for inspection and litigation. This was remedied in Law No. 5727 of 2008, which defined the process for specific duties and litigation. Inspection teams were to be formed in each province and district, made up of members from the provincial health directorate, police department, municipal police and other relevant institutions, to inspect compliance with and implementation of the Law. A total of 2848 inspection teams (9496 people) carried out 1 343 614 inspections in almost three years (May 2008–March 2011), mainly in workplaces (1 119 116). As a result, a total of 48 804 fines were levied to a value of 20 809 250 TL (US\$ 13 million) (Table 22). One third of these fines concerned individuals who smoked in enclosed spaces, particularly in restaurants or cafés, and two thirds concerned the owners of workplaces who allowed smoking on their premises. The inspection teams observed that compliance was high (96%) in workplaces (22).

Table 22. Inspections carried out in 2008–2010

|                      | 2008               |                   |              | 2009               |                   |              | 2008               |                   |              |
|----------------------|--------------------|-------------------|--------------|--------------------|-------------------|--------------|--------------------|-------------------|--------------|
|                      | No. of inspections | No. of violations | No. of fines | No. of inspections | No. of violations | No. of fines | No. of inspections | No. of violations | No. of fines |
| Indoor public places | 30 906             | 1 173             | 221          | 19 061             | 403               | 127          | 98 778             | 1 848             | 3 554        |
| Hospitality venues   | 293 581            | 11 800            | 4591         | 266 939            | 9 330             | 4 326        | 558 540            | 18 563            | 26 541       |
| Public transport     | 13 296             | 230               | 300          | 10 552             | 118               | 299          | 35 707             | 1 144             | 374          |
| Total                | 337 783            | 13 203            | 5 112        | 296 552            | 9 851             | 4 752        | 693 025            | 21 555            | 30 469       |

Source: Ministry of Health, 2011 (22).

The Law prohibits the sale of tobacco products to minors aged under 18 years. Violations of this provision are punishable by imprisonment as well as a fine. Over a two-year period (2009/2010), 526 cases were detected and 698 records were filed with the courts (22).

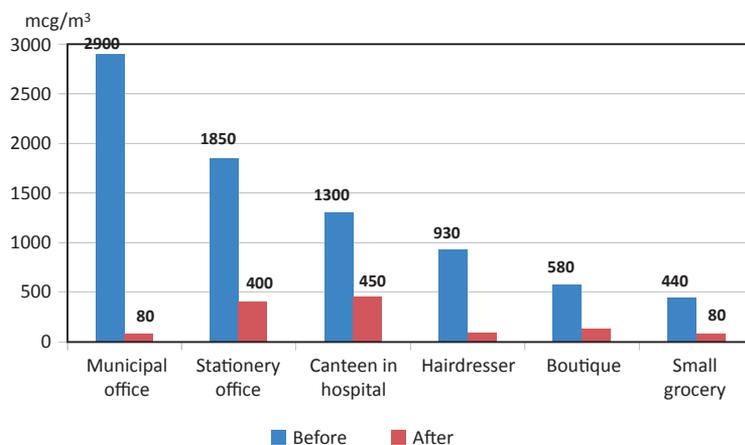
Another important aspect of tobacco use is the environmental pollution caused by cigarette butts. In Turkey every day 50–60 tons of cigarette butts are thrown away. Many smokers throw them down in the street, which is forbidden under the Misdemeanours Act (41). This Act also contains articles laying down penalties for violations of the smoking ban in indoor public places. A total of 8310 people in 2009 and 23 190 people in 2010 were fined in accordance with this Law (22).

### Indoor air quality

Second-hand smoke is a mixture of the gases and particles from the burning end of a cigarette and exhaled mainstream smoke. Particles emitted from burning cigarettes are in the fine to ultrafine range and have been shown to be inhaled deep into the lungs and to cause adverse health effects. The most striking effect of the smoke-free legislation was observed on indoor air quality.

Various studies have been carried out to investigate the effects of the smoke-free legislation. The Law was implemented in two phases, and some impact on the air quality of public places was expected after the first phase implementation. The Society of Public Health Specialists measured  $PM_{2.5}$  in some shops and public places in Ankara before and after the first phase implementation to examine whether the levels of indoor air pollution were lower afterwards (45). The findings showed marked reductions in  $PM_{2.5}$  after the ban by 57.1– 97.2%. Despite these considerable reductions, the levels were still above the permissible level for outdoor air quality levels measured in  $PM_{2.5}$  suggested by WHO in the *Air quality guidelines* (76) (Fig. 18).

Fig. 18.  $PM_{2.5}$  levels before and after the first phase implementation of Law No. 5727 in some public places, Ankara



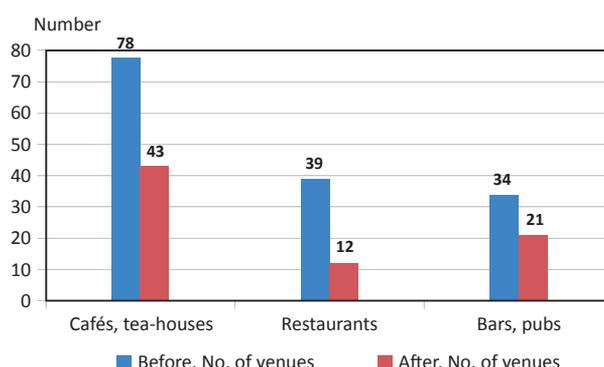
Source: Özcebe H, Bilir N, Aslan D (45).

The second phase implementation covered hospitality venues such as cafés, bars, hotels, restaurants, tea-houses and café-bakeries.  $PM_{2.5}$  was measured in 160 such venues in 8 provinces before and after the second phase implementation. A total of 20 venues in each province were visited and the  $PM_{2.5}$  measured in April 2009, before the second phase implementation, and then revisited and the  $PM_{2.5}$  measured again in November 2009 after the second phase implementation (Fig. 19) (45).

The exposure results measured inside the hospitality venues showed a decrease after the introduction of the ban. The level of particles decreased by 55.1% in the 78 cafés, café-bakeries and coffee-houses reached in the two parts of the study, while lower levels of particles were found at the second measurements in 31% of the restaurants and 61% of the bars reached (Fig. 17) (45).

The results of this study indicate that indoor particle levels have decreased significantly. Although considerable improvements were seen in indoor air quality after Law No. 5727 came into force,  $PM_{2.5}$  values in most of the places were still too high. Some violations were seen during the data collection phase of the study (45).

Fig. 19. Changes in  $PM_{2.5}$  levels at hospitality venues after second phase implementation of Law No. 5727, 2009



Source: Özcebe H, Bilir N, Aslan D (45).

## Impact on health

### *Acute health problems, hospital admission*

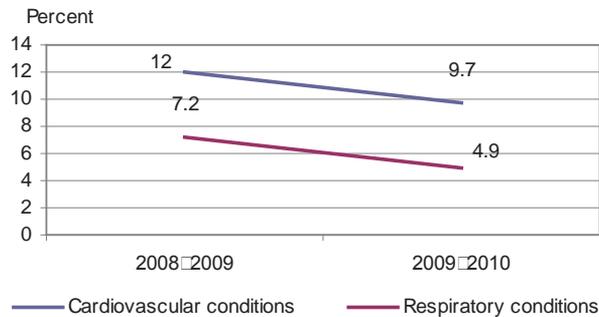
Cardiovascular diseases and cerebrovascular diseases are the leading causes of death in Turkey as in the rest of the world. The duration and intensity of smoking increases the risk of dying from tobacco-related diseases, and exposure to second-hand smoke also causes them to occur. Chronic cardiovascular and respiratory conditions and malignant diseases due to tobacco use usually develop after many years, so that an improvement in these health problems will also take some years. Some acute health problems can, however, develop as a result of exposure to second-hand smoke, and a decline in these conditions can be detected in a relatively short time. Changes in emergency admissions to hospital due to acute conditions aggravated by tobacco smoke can, therefore, be used to evaluate the impact of the smoking ban. Examples of such changes have already been documented in the literature (77–79).

A study in Ankara traced admissions to the emergency medical services due to acute cardiovascular and respiratory problems for December to February in two consecutive years between 2008 and 2010 (before and after the first phase implementation), and analysed the 112 ambulance service records to ascertain the number of diseases related to tobacco. Since the total number of admissions changed in different years, the study evaluated the percentages of these conditions. A marked decrease was observed after the implementation, particularly among men, in the percentages of sufferers from these conditions (Figs. 20, 21) (45).

The number of patients admitted to emergency departments in 10 big hospitals in Istanbul was evaluated for the periods January–May 2009 and January–May 2010, with a focus on ten diseases related to smoking and passive smoking (acute nasopharyngitis, pneumonia, acute bronchitis, allergenic rhinitis, acute respiratory diseases, chronic lung diseases, bronchial

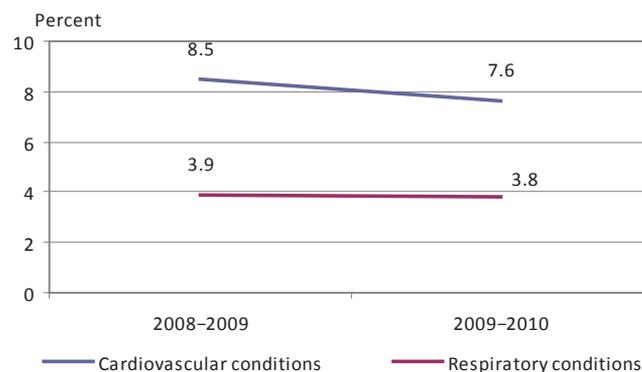
asthma, ischaemic heart diseases and myocardial infarction). There were 115 030 cases in 2009 and 87 212 in 2010, giving a decrease in one year of 24.2%. This broke down into 16.0% for acute nasopharyngitis, 32.9% for pneumonia, 18.8% for acute bronchitis, 59.2% for allergic rhinitis, 61.3% for acute respiratory diseases, 21.4% for chronic lung diseases, and 33.6% for myocardial infarction (80).

Fig. 20. Changes in cardiovascular and respiratory conditions before and after first phase implementation of Law No. 5727 (men) (%)



Source: Özcebe H, Bilir N, Aslan D (45).

Fig. 21. Changes in cardiovascular and respiratory conditions before and after first phase implementation of Law No. 5727 (women) (%)



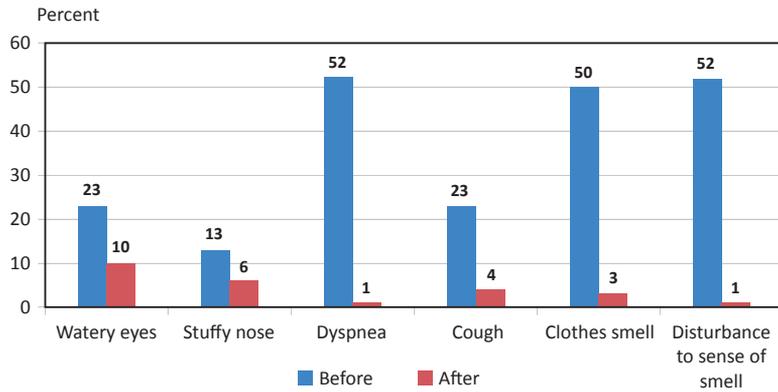
Source: Özcebe H, Bilir N, Aslan D (45).

### Workers' health

The indoor smoking ban has had positive effects on the health of workers exposed to second-hand smoke during their working hours. Studies have shown that non-smoking workers reported fewer symptoms related to passive smoking after the introduction of the indoor smoking ban.

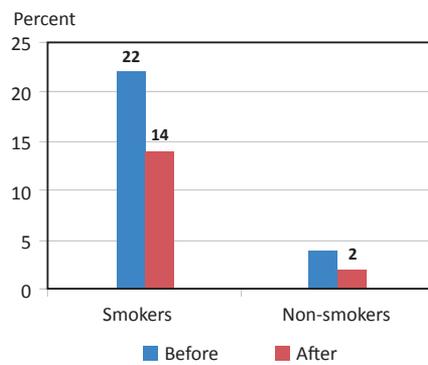
A study carried out among workers in hospitality venues in Ankara aimed to learn whether they reported any change in some symptoms after the introduction of the ban. The study was carried out twice, before and after the second phase implementation in the hospitality sector. Some of their symptoms were investigated and measurements taken of carbon monoxide levels in their breath and cotinine levels in their urine (45). The changes in these levels and in their symptoms are shown in Figs. 22–24.

Fig. 22. Changes in some hospitality sector workers' symptoms before and after the second phase implementation of Law No. 5727, 2010 (%)



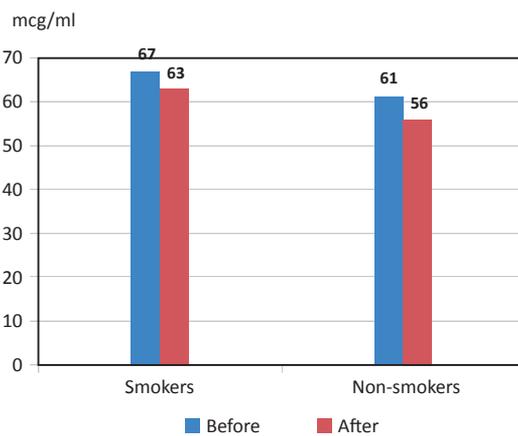
Source: Özcebe H, Bilir N, Aslan D (45).

Fig. 23. Carbon monoxide levels in breath in hospitality sector workers before and after the second phase implementation of Law No. 5727, Ankara, 2010



Source: Özcebe H, Bilir N, Aslan D (45).

Fig. 24. Urinary cotinine levels in hospitality sector workers before and after the second phase implementation of Law No. 5727, Ankara, 2010



Source: Özcebe H, Bilir N, Aslan D (45).

# KEYS TO SUCCESS

## Strong nongovernmental organizations

As well as a strong and comprehensive tobacco control law, strong nongovernmental organizations are an important element in successful and effective tobacco control activities. There have been a number of such organizations in Turkey for years, mostly carrying out surveys of the frequency of smoking in various places and among various interest groups. In May 1995, several of them came together to form the National Coalition on Tobacco and Health. At that time, smoking prevalence was very high, the first draft tobacco control law had been rejected by the President in 1991 and no tobacco control activity was possible. Nevertheless, a new draft law had been submitted to parliament and was being discussed in the commissions. The National Coalition defined two priority areas: supporting the draft law before Parliament, and organizing a National Tobacco and Health Congress.

Members of the National Coalition actively lobbied the President and parliament in favour of the law. They participated in the commissions' discussions and gave their opinions on changes to or clarifications of some of the items in the draft law. The day after their last visit to the President, he signed the law and sent it for publication in the *Official Gazette*. Law No. 4207 on Preventing Harms of Tobacco Products came into force on 26 November 1996. On the first anniversary of its enactment, the National Coalition celebrated by organizing the First National Tobacco and Health Congress in Istanbul, including the participation of some international experts (Fig. 25).

Fig. 25. Celebrating the first anniversary of Law No. 4207



The National Coalition continued its efforts in the area of tobacco control, organizing conferences and training programmes on tobacco control, participating in the discussions regarding the WHO FCTC, and participating in the procedures for amending the Law. These discussions started in 2005 and took three years until the Law was amended in 2008. Following the enactment of Law No. 5727, the National Coalition organized a series of meetings with representatives of the hospitality industry to explain the importance and rationale of the comprehensive smoke-free legislation. It also played a crucial role in advocating the implementation of smoke-free legislation through meetings with the press and issuing evidence-based press bulletins on special days for tobacco control (such as the World No Tobacco Day) and other important occasions. Meetings between members of the Coalition and some well-known journalists led to columns by the journalists on the importance of tobacco control and the benefits of the legislation.

## Strong mass media campaigns

Media campaigns have been used for a long time for public information. Following the passage of Law No. 5727, there was a great need to inform the public about the scientific basis for the smoke-free legislation and its benefits, particularly the prevention of exposure to second-hand smoke. The Law gave 4 months for public places and 18 months for hospitality venues to become smoke-free. Media campaigns were carried out in three phases, fitting in well with the statutory 90-minute monthly broadcasts on the harm caused by tobacco use.

The first phase followed immediately after enactment of the Law and focused mainly on smoke-free air. Experts were invited to talk on TV about the scientific knowledge underpinning the legislation, the harm caused by exposure to second-hand smoke and ways of protection. Special TV spots featured well-known artists and sportsmen. The Media Consultancy Council was established with the participation of tobacco control experts from universities, TAPDK and the Ministry of Health as well as communications experts, and with the responsibility of reviewing antismoking messages and campaigns before they are launched by the Ministry of Health. Government officials and academics gave information on radio and television programmes on the main items of the Law, inspection procedures and fines. The smoke-free air logo featured in many programmes (Fig. 26).

Fig. 26. Minister of Health with the smoke-free air logo



The second phase focused on implementation of the Law in addition to the smoke-free air policy. TAPDK organized a cartoon contest and spot film contest and selected cartoons and spot films were used by most of the TV channels in their programmes. Programmes during this phase included experts giving their opinions about the scientific bases of the smoke-free air policy, and explanations by officials of the provisions and fines laid down in the Law.

The third phase followed the establishment of the quitline service in October 2010. Programmes during this period featured information about the services available, the harm caused by tobacco use and the rationale for stopping smoking. Short films featured patients talking about their diseases and their regret about smoking. The impact of these programmes could be seen in the considerable increase in the number of calls to the quitline.

## Whole-government approach and political stability

Political support is very important for success in any area. This is particularly so in the field of tobacco control, in the presence of a strong tobacco industry. The first tobacco control law (Law No. 4207) was enacted by a coalition government, supported by all the political parties.

The amended law (No. 5727) was passed by a single majority party government, again with the support of all political parties. Sustained political support is crucial, and it has been of inestimable benefit that the government, including the Minister of Health, has remained unchanged for the last nine years. Most of the civil servants in the Ministry of Health have also been in their positions for long time, ensuring sustained support from a knowledgeable team. In addition, the Prime Minister and many other ministers were aware of the problem and the need for a comprehensive law and all gave their support. Both the Prime Minister and the Minister of Health have received awards from WHO for their continuous commitment to and sustained support for tobacco control.

# CONCLUSIONS



Turkey has a long tradition of tobacco use and a high prevalence of smoking, particularly among men. Nevertheless great progress has been made in tobacco control. The first tobacco control law in 1996, an understanding of the “smoke-free” concept and smoking bans in particular places have been accepted as the norm by the public. The amended tobacco control law (Law No. 5727) of 2008 successfully introduced a comprehensive smoking ban covering all enclosed places, including hospitality venues, making Turkey one of the leading countries in the world regarding tobacco control. Nevertheless, some important issues remain to be dealt with.

## **Smoking on private premises**

Law No. 5727 bans smoking in most enclosed places, but not in homes or private cars, so many smokers still smoke at home and in their private cars. This seems to be an important source of exposure to second-hand smoke, particularly for non-smoking spouses and children.

## **Smoking during pregnancy and breastfeeding**

Smoking during pregnancy is harmful for the baby as well as for the mother. Intrauterine malnutrition and low birth weight, birth defects, premature delivery and abortion are some of the negative consequences of smoking during pregnancy. In the developing countries the smoking prevalence among women is quite low, but in Turkey one in every six or seven women currently smoke, and it is more common during the childbearing years. Despite some level of knowledge among pregnant women about the adverse effects of smoking, there is a strong need for education on the dangers of smoking, particularly during pregnancy, and encouragement and support for them to stop.

## **TAPDK and point of sale regulation**

TAPDK sets the rules for the marketing of tobacco products. A recent TAPDK circular laid down that all tobacco products must be kept in closed places and not be visible from outside the establishment. These rules are not, however, being implemented satisfactorily. There are almost 200 000 sales points all over the country and TAPDK has no inspection team. Nongovernmental organizations try to enforce implementation, but as they have no powers to do this, their efforts are necessarily limited to increasing awareness among the relevant organizations. An inspection mechanism is needed to organize enforcement of the rules.

## **Inspections and violations**

Although there are a number of inspection teams, they cannot control all the establishments. In cases of violation, the inspection team has the duty to fine the violators. Individuals are fined by police officers but there is a special procedure for fining institutions. More practical implementation of this procedure will improve the effectiveness of inspections, as will an increase in the number of inspection teams.

Since 1996, the Law has prohibited the sale of tobacco products to minors. This is well enforced in big supermarkets, but children and young adults can still easily buy tobacco products at

small markets and from street traders. The sale of tobacco products to children is punishable by imprisonment as well as a fine, although this does not happen often.

Inspection is the legal duty of the inspection teams, but the public should react and inform the responsible institutions in cases of violation. Although almost everybody supports the smoking ban in enclosed places, they do not react when a person smokes. Public awareness should be enhanced through effective mass media campaigns.

### **Monitoring of the effectiveness of tobacco control measures**

The monitoring of tobacco use prevalence is an important measure to evaluate the effectiveness of the tobacco control measures. However, information is needed on issues such as the illicit trade in tobacco products, the activities of the tobacco industry and the effectiveness of media campaigns or pictorial warnings on packaging. An information system should be established to collect relevant data on these issues.

WHO has given great importance to tobacco control at the global level through enacting the WHO FCTC and setting effective strategies for tobacco control under the name of MPOWER (Annex 1). In 2008, Turkey had succeeded with only one of the then six strategies, but recent developments show that the country has been successful with five of the current seven criteria. The two missing areas were those covering warnings and the enforcement of the advertising ban. TAPDK's recent amended circular meets the criteria for points of sale. TAPDK intends to change the pictures and their size shortly, and will discuss plain packaging in the near future. By these changes and further progress in tobacco control being guided by MPOWER package, Turkey will meet nearly all requirements of WHO FCTC.

In conclusion, Turkey is well on the way to becoming a tobacco-free country.

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# Annex 1



## **WHO's contribution to tobacco control in Turkey From smoke-free to tobacco-free**

Turkey, a country with a high prevalence of smoking and an important tobacco production, has made substantial progress in tobacco control in the last three to four years and is now considered a model country at regional and global level in this area.

Turkey ratified the WHO FCTC in 2004 – one of the first countries to do so. A new law (Law No. 5727) was introduced in 2008 to make all enclosed public places and workplaces smoke-free. The country went smoke-free in two phases, starting on 19 May 2008 in workplaces and public places and going fully smoke-free on 19 July 2009, including in restaurants, bars, cafés and tea-houses.

Since June 2007, WHO has provided technical assistance with tobacco control in Turkey as part of the Bloomberg Initiative to Reduce Tobacco Use. This support has been delivered through the Ministry of Health and other governmental authorities, including the parliamentary health commission and a number of nongovernmental organizations, with a view to the development and implementation of evidence-based tobacco control activities in line with various aspects of the WHO FCTC. Since 2007, WHO has given technical support to the Turkish parliament and government throughout the process of preparing and adopting this historic smoke-free legislation. This support continued throughout the two stages of the entry into force of the smoke-free legislation and its effective implementation at national and provincial level. WHO is also providing technical support with the monitoring of tobacco use, treatment for tobacco dependence, health warnings on tobacco products, the enforcement of bans on tobacco advertising, promotion and sponsorship, and the raising of taxes on tobacco products and smuggling-related issues.

Turkey has made great achievements in tobacco control, particularly in the area of smoke-free environments. The most remarkable progress has been made in five areas: (i) monitoring tobacco use and prevention policies, (ii) protecting people from tobacco smoke by introducing smoke-free public places, including bars, tea-houses and restaurants (Figs. 1.3, 1.4), (iii) offering help to quit tobacco use, (iv) organizing hard-hitting anti-tobacco campaigns in the mass media, and (v) raising taxes on tobacco. Cigarettes are additionally taxed at more than 80% of the price, as recommended by the WHO (Fig 1.1), one of the highest rates in the WHO European Region. The key reason to talk about the excellence of the Turkish example is the whole-government approach to tobacco control, led by the Prime Minister. Driven largely by government leadership and policy initiatives, a complex system of intersectoral cooperation has been established to fight the tobacco epidemic.

Fig. 1.1. Tobacco taxation meeting Minister of Health, Minister of Finance, President of Health Commission of Turkish Parliament and WHO Representatives from HQ, Europe and Country Office in Turkey, October 2011



Fig. 1.2. Launch of WHO Global Tobacco Control Report 2009, Minister of Health, Head of Health Parliamentarian Commission, ADGNMH, WHO Representatives from HQ, Europe and Country Office in Turkey, December 2009



Turkey is an excellent example of WHO teamwork and cooperation among three levels of the Organization and established partnerships with key stakeholders, including the partners in the Bloomberg Initiative to Reduce Tobacco Use and the European Union. (Fig 1.2)

Fig. 1.3. Before the second phase implementation of Law No. 5727: narghile smoker in a café



Fig. 1.4. After the second phase implementation of Law No. 5727: smoke-free restaurant



Turkey has become one of the leaders in tobacco control, not only in the WHO European Region but also globally. Where policy measures such as smoke-free indoor public places and a differential system of taxation are concerned, Turkey goes beyond several European Union countries. While the *WHO report on the global tobacco epidemic 2009* evaluated Turkey as among the highest achieving countries regarding only one of that report's six

1 *WHO report on the global tobacco epidemic 2009: Implementing smoke-free environments*. Geneva, World Health Organization, 2009 ([http://ctchp.org/index.php?option=com\\_content&view=article&id=182:who-report-on-the-global-tobacco-epidemic-2009-implementing-smoke-free-environments&catid=116&Itemid=229](http://ctchp.org/index.php?option=com_content&view=article&id=182:who-report-on-the-global-tobacco-epidemic-2009-implementing-smoke-free-environments&catid=116&Itemid=229), accessed 17 November 2011).

MPOWER policies (protecting people from tobacco smoke), the *WHO report on the global tobacco epidemic, 2011*<sup>2</sup> considers that recent progress has qualified Turkey for this status regarding five of that report's seven policies (monitoring tobacco use and prevention policies, protecting people from tobacco smoke, offering help to quit tobacco use, raising taxes on tobacco and conducting anti-tobacco campaigns in the mass media), and for the second best category regarding the other two policies (warning about the dangers of tobacco (placing health warnings on tobacco products) and enforcing the ban on tobacco advertising, promotion and sponsorship). TAPDK recently issued an amended circular to meet the criteria regarding points of sale. WHO has started to provide technical support to the government to increase the average size of the warnings on the front and back of the packs by an average of at least 50% (excluding the borders), in line with the WHO FCTC guidelines for article 11. These changes will enable Turkey to meet all key obligations under the WHO FCTC and highest of all policies recommended by the MPOWER.

These achievements resulted in the Prime Minister, Mr Recep Tayyip Erdoğan, receiving in 2010 the WHO Director-General's Special Recognition Award for Contribution to Global Tobacco Control and, in 2008, the Minister of Health, Professor Recep Akdağ, receiving an award for his contributions to activities against tobacco. 19 January 2012, the Minister of Health's Special Award 2012 to the WHO Country Office in Turkey in recognition of its exemplary support to the tobacco control activities of the Ministry of Health (Fig 5).

Fig. 1.5. World Health Organization Representative in Turkey Dr Maria Cristina Profili receiving the Ministry of Health Special Award for Tobacco Control, January 2012



Study groups from Azerbaijan, Bangladesh, Egypt, Hungary, Kosovo (in accordance with Security Council resolution 1244 (1999)), Thailand and Ukraine have visited Turkey to learn more about different aspects of the country's overall tobacco control programme and its successes.

#### **Increase in free radio and television time for anti-tobacco advertising**

Article 4 of Law No. 4207 of 1996 laid down that "the institution of Turkish radio and television and private television organizations must broadcast educational programmes on the dangers of tobacco-smoking for at least 90 minutes a month". However, TV channels broadcast these educational programmes very early in the morning and late at night so that few people were aware of them.

After the implementation of Law No. 4207 in 1996, the concept of restricting smoking in

<sup>2</sup> *WHO report on the global tobacco epidemic 2011: warning about the dangers of tobacco*. Geneva, World Health Organization, 2011 ([http://whqlibdoc.who.int/publications/2011/9789240687813\\_eng.pdf](http://whqlibdoc.who.int/publications/2011/9789240687813_eng.pdf), accessed 17 November 2011).

most enclosed indoor spaces was accepted as the norm. By 2003, however, it had become apparent that amendments were needed to both the contents and coverage of the smoke-free policy. The Ministry of Health initiated the preparation of a new law, which was drafted by the parliamentary health commission with the support of WHO and nongovernmental organizations. Following a series of discussions with the commission, missing points in the legislation were regulated, provisions regarding fines and the authorities responsible for enforcement were added, and the display of tobacco products or use of their images in TV programmes, TV films, TV series, TV music videos, advertisements and commercial films was banned. The Radio and Television Supreme Council mandated blurring such images. A ban on the display of tobacco products in films in cinemas was also suggested, but the Ministry of Culture was opposed and so it was not included in the new Law.

### **WHO support for a smoke-free Turkey**

WHO has given considerable support to the Turkish parliament and government with the passage of its historic smoke-free legislation in 2008. WHO has also given technical and financial support for legislation banning smoking in all public places, including hospitality venues. This 100% ban represents a major achievement for Turkey and establishes the country as a global leader in smoke-free policies.

### ***Policy status***

Turkey, until recently one of the major-tobacco producing countries of the world, has made substantial progress in tobacco control in a short time. Two important policy statements regarding tobacco control were: (i) in 2004, ratification of the WHO FCTC, and (ii) in 2008, the passage of Law No. 5727 substantially amending Law No 4207 of 1996 (the tobacco control law) with the aim of reducing tobacco consumption and protecting people from exposure to second-hand smoke, with special emphasis on future generations.

Since June 2007, WHO headquarters and the regional and country offices have provided support for tobacco control within the biennium collaboration agreement framework and the scope of the Bloomberg Global Initiative to Reduce Tobacco Use project. Turkey is one of four countries in the WHO European Region to participate in this project. WHO has supported the Ministry of Health, other governmental authorities, the parliamentary health committee and a number of nongovernmental organizations with the development and implementation of evidence-based tobacco control activities in support of various aspects of the WHO FCTC and MPOWER policies, as well as to meet the expectations of the country from the tobacco component in the biennium collaboration agreement.

### ***Joint national capacity assessment of the implementation of effective tobacco control policies in Turkey, February 2009***

Between 9 and 20 February 2009, a group of 18 national, international and WHO health experts held individual interviews with 125 individuals and met as a group with 61 representatives of the majority of stakeholders involved in tobacco control in Turkey in order to assess the country's tobacco control efforts. The assessment team considered the following factors to be the most significant challenges to continued progress in this area.

The commitment and dedication to tobacco control and public health of all authorities was exemplary. However, overall coordination for implementation of the national action plan within both the government and nongovernmental organizations needed improvement, and at central and provincial levels it needed to be expanded and improved.

The government had taken valuable initial steps to monitor the implementation of tobacco control policies in a systematic manner that needed to be further developed. Efforts in the area of epidemiological surveillance needed to be more coordinated, systematic and sustainably planned. Monitoring of the tobacco industry's activities to undermine public health was still in its early stages. Moreover, monitoring and surveillance data were not being fully utilized for policy implementation and improvement.

Intensive efforts to warn the population about the dangers of tobacco had been made by the government and nongovernmental organizations and the government had planned to introduce pictorial health warnings. To ensure the sustainability of current initiatives and further progress, the following three key recommendations were considered as critical and having the best potential for success in the short term, and should be implemented within a few months of the experts' report:

- immediately scale up and intensify preparatory activities, communication and coordination among all stakeholders for the successful implementation of the [then] forthcoming second phase of the smoke-free legislation;
- strengthen and enhance the leadership and capacity of the Ministry of Health in order to establish a clear coordination mechanism to advance the implementation of the national action plan and to meet the obligations of the WHO FCTC;
- continue to raise tobacco prices through taxation at a rate at least as high as inflation.

#### ***Follow-up to the joint national capacity assessment***

One year later and at the request of the Turkish government, WHO, through its Country Office in Turkey and the Regional Office for Europe, worked together with the General Directorate of Primary Health Care of the Ministry of Health to organize and conduct a follow-up to the 2009 joint national capacity assessment. From 19 to 21 January 2010, a group of 24 national, international and WHO health experts reviewed the recommendations of the 2009 assessment, as well as the status and current development efforts of key tobacco control policies. The group also conducted a SWOT analysis<sup>1</sup> and evaluated the level of implementation of the 2009 assessment team's recommendations, as follows (Fig. 1.3).

*Policies where capacity assessment recommendations have a high level of implementation (most recommendations with a median of 2 or higher):*

- smoke-free environments.

*Policies where capacity assessment recommendations have a low level of implementation (all recommendations with a median of 1 or lower):*

- coordination and implementation of tobacco control interventions among National Tobacco Control Board Members;
- public awareness and mass-media campaigns.

*Specific capacity assessment recommendations that have a high level of implementation (median of 3):*

- excise taxes on tobacco products should be revised and increased in order to reduce tobacco consumption and increase the government's excise revenues.

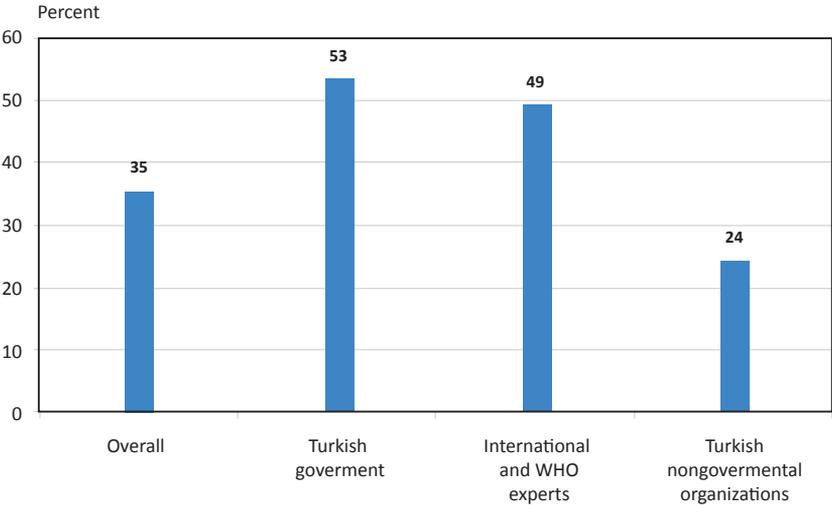
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<sup>3</sup> A strategic planning method used to evaluate the strengths, weaknesses/limitations, opportunities and threats involved in a project.

*Specific capacity assessment recommendations that have a low level of implementation (median of 0):*

- the Ministry of Health, in collaboration with the mass media and other experienced partners, should develop and implement an evidence-based communication strategy;
- funding should be sustained for ongoing behaviour change campaigns from TAPDK's revenue stream and the Ministry of Health's revolving fund;
- the Ministry of Health should establish a well-staffed and easily accessible, toll-free national quitline;
- the social security health insurance system should reimburse low-cost pharmacological treatment as well as prescription medications for behavioural needs;
- TAPDK should introduce and monitor strong regulations governing the display of tobacco products at points of sale in line with best practice for preventing the use of such displays as a marketing and promotion/advertisement strategy;
- TAPDK should increase its service charge from 1.5 TL to 2 TL per 1000 tax stamps (one banderol), and allocate the additional 0.50 TL per 1000 banderols (approximately 2.8 million TL) to tobacco control activities.

Fig. 1.4. Percentage of capacity assessment recommendations perceived to have a high level of implementation,<sup>a</sup> by type of organization of evaluator



<sup>a</sup>Median evaluation of 2 or more (range 0–3).



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The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matter and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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