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# The WHO global alliance against chronic respiratory diseases in Turkey (GARD Turkey)

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## ÖZET

### **Türkiye’de DSÖ kronik solunum hastalıklarına karşı küresel birleşim (GARD Türkiye)**

Bulaşıcı olmayan kronik hastalıkları önlemek ve kontrol etmek amacıyla, 61. Dünya Sağlık Şûrası bir “bulaşıcı olmayan kronik hastalıklar eylem planı” başlatmıştır. Kronik solunum hastalıklarını da içeren bu hastalıklar için bir paket geliştirilmiştir. GARD Dünya Sağlık Örgütü (DSÖ)’ne bu konuda ülkeler düzeyinde yardımcı olan yeni ama hızla büyüyen bir birleşimdir ve 2006 yılında başlatılmıştır. GARD Türkiye hükümet tarafından tüm ilgili paydaşları içererek geliştirilen ilk kapsamlı programdır. Bu yazıda Türkiye’deki kronik solunum hastalıklarının şiddet ve prevalansı konusundaki belirteçlerin bir özeti sunulmakta ve GARD Türkiye oluşum ve gelişim süreci özetlenmektedir.

**Anahtar Kelimeler:** DSÖ, kronik solunum hastalıklarına karşı küresel birleşim, GARD, solunum, allerji, Türkiye, kronik hava yolu hastalıkları.

## SUMMARY

### **The WHO global alliance against chronic respiratory diseases in Turkey (GARD Turkey)**

In order to prevent and control non-communicable diseases (NCDs), the 61<sup>st</sup> World Health Assembly has endorsed an NCD action plan (WHA resolution 61.14). A package for essential NCDs including chronic respiratory diseases (CRDs) has also been developed. The Global Alliance against Chronic Respiratory Diseases (GARD) is a new but rapidly developing voluntary alliance that is assisting World Health Organization (WHO) in the task of addressing NCDs at country level. The GARD approach was initiated in 2006. GARD Turkey is the first comprehensive programme developed by a government with all stakeholders of the country. This paper provides a summary of indicators of the prevalence and severity of chronic respiratory diseases in Turkey and the formation of GARD Turkey.

**Key Words:** WHO, global alliance against chronic respiratory diseases, GARD, respiratory, allergy, Turkey, chronic airway diseases.

## ABBREVIATIONS

**AAAAI:** American Academy of Allergy, Asthma and Immunology

**ACCP:** American College of Chest Physicians

**ARIA:** Allergic Rhinitis and its Impact on Asthma

**ATS:** American Thoracic Society

**BTS:** British Thoracic Society

**COPD:** Chronic Obstructive Pulmonary Disease

**CRD:** Chronic Respiratory Disease

**DALY:** Disability Adjusted Life Years

**ECRHS:** European Community Respiratory Health Survey

**EFA:** European Federation of Allergy & Airway diseases patients association

**ERS:** European Respiratory Society

**GARD:** Global Alliance against Chronic Respiratory Diseases

**GINA:** Global Initiative for Asthma

**GOLD:** Global Initiative for Chronic Obstructive Lung Diseases

**IPCRG:** International Primary Care Respiratory Group

**ISAAC:** International Study on Asthma and Allergy in Childhood

**IUATLD (UNION):** International Union Against Tuberculosis and Lung Diseases

**MoH:** Ministry of Health

**MP:** Million Pieces

**NBD:** National Burden of Disease

**NCD:** Non-Communicable Disease

**NGO:** Non-Governmental Organization

**NHLBI:** National Heart Lung and Blood Institute

**TSNACI:** Turkish Society of National Allergy and Clinical Immunology

**TTS:** Turkish Thoracic Society

**WAO:** World Allergy Organization

**WHA:** World Health Assembly

**WHO:** World Health Organization

**YLD:** Years of Life Lost due to Disability

**YLL:** Years of Life Lost

## INTRODUCTION

The fifty-third World Health Assembly (WHA) recognized the enormous human suffering caused by chronic diseases. It requested the World Health Organization (WHO) director-general to give priority to the prevention and control of chronic respiratory diseases with special emphasis on low and middle income countries and on other deprived populations. The call was for the development of collaborations with the international community to coordinate global partnerships and alliances for resource mobilization, advocacy, capacity building and collaborative research. This led WHO to the formation of Global Alliance against Respiratory Diseases (GARD) which is a voluntary alliance of national and international organizations, institutions and agencies working towards the common goal of improving global lung health (1,2).

The aim of the GARD is to underline the importance of chronic respiratory diseases (CRDs) as one of the most important health problems. Major international organizations, collaborating in GARD will determine priorities in different countries and embark on the surveillance, prevention and control of CRDs. The improvement of health care and treatment facilities and the education of health personnel, particularly in developing countries, are major goals. It is hoped that sharing of experience of successful programmes with avoid duplication of effort and wasted resources. Briefly, GARD aims to establish cooperation in field of CRD between continuing programs within the WHO countries and programs within GARD (2,3).

GARD member countries develop programs against CRD, which are run by governments under the framework of GARD structure and rules. Each country's activities and plans are formed by the Ministry of Health (MoH) of the country in accordance with rules and regulations of the country, and action plans are managed by the governments (2,3).

GARD was established in 2005 with the participation of 17 governmental or non-governmental organizations. Today, the number of organizational members has increased to over 100. Go-

vernmental organizations (NHLBI, Italian Ministry of Health), very well-known scientific organizations namely ATS, ERS, AAAAI, ACCP, ARIA, BTS, GINA, GOLD, IUATLD (UNION), WAO and patients's organizations (EFA) are among them. Turkish Thoracic Society (TTS) has become a GARD member in 2005. In 2007, Turkish Allergy and Clinic Immunology Society has joined the organization as the second member of Turkey (2).

Turkey is the first country that fulfilled the conditions considered ideal for the formation of a GARD country, leading to the signing of an agreement with the MoH (Figure 1. Signing Ceremony).

## GARD COUNTRY ESTABLISHMENT

In the first steps for a GARD country, there are 3 important GARD country prerequisites:

1. The situation of the surveillance, prevention and control of chronic respiratory diseases in the country is analysed (SITUATION ANALYSIS).
2. MoH of the country is informed about GARD country and invited to be involved with its development.
3. WHO regional office and WHO representative in the country are informed about GARD country and invited to be involved with its development (2,3).

In Turkey, these steps began with the formation of a committee by the TTS who undertook a situation analysis on the burden of chronic respiratory diseases in that country. By using the data reported by Turkish MoH in the Turkey Health Report and National Burden of Chronic Diseases, the committee confirmed that chronic airway diseases, namely COPD and asthma, represent a very important burden of disease in Turkey.

## SITUATION ANALYSIS (BURDEN of RESPIRATORY DISEASES in TURKEY)

According to (NBD-CE Project, 2000, Turkey), the distribution according to main NBD disease groups in males and females over age 50 is shown in in Figures 2 and 3. The line representing non-communicable diseases including respiratory diseases is shown in pink colour (4).



Figure 1. Photograph of signature with the representatives of WHO regional office, Turkish MoH, TTS, TSNACI.

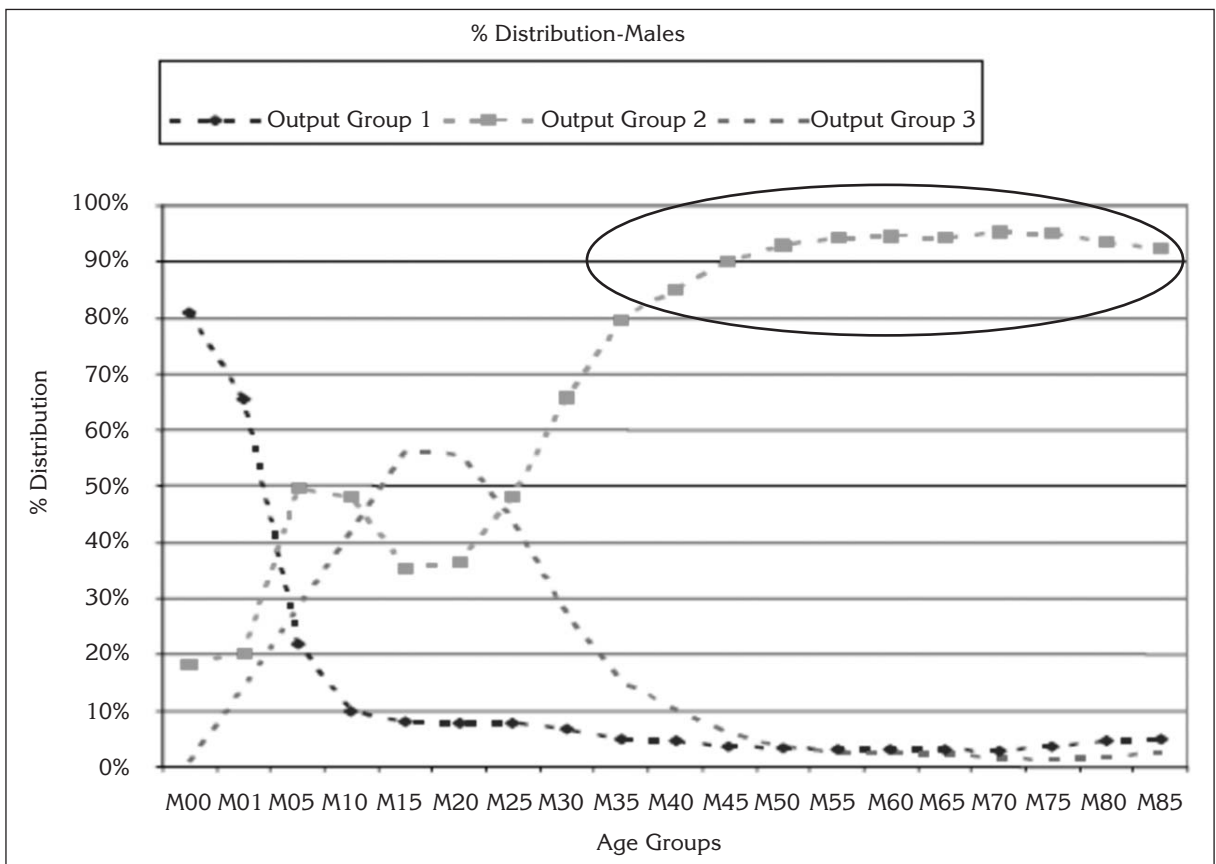


Figure 2. Distribution of the percentage of disease groups in males in Turkey (NBD-CE Project, 2000, Turkey) (4).

As it is seen here, both sexes have infectious diseases in a wide range in childhood, while an increase is registered in first group diseases during women’s productivity period because of maternal causes, and as it is expected in elderly, there is an increase in second group diseases.

According to diseases in NBD list, the distribution of death causes at national level for all age groups is shown in Figure 4. The rate for chronic obstructive lung diseases is 5.8% for all age groups and for both sexes (4).

The distribution of the top 20 causes of death in males and females is shown in Table 1. COPD ranked third amongst males (4-6).

Only one out of 10 COPD patients was aware of the fact that they had COPD. COPD is a disease that mainly affects people over 40 years of age, during their most productive years, is costly to

treat and results in significant disability (7,8).

COPD is also ranks 8<sup>th</sup> among diseases causing YLL (years of life lost) and in 5<sup>th</sup> as a cause of years of life lost due to disability, and the 8<sup>th</sup> as a cause of Disability Adjusted Life Years (DALYs) (Figure 5). Turkey’s total burden of disease in males is 5.663.597 DALYs of which 6.2% is attributable to respiratory system diseases (4-6).

In the year 2000 the total deaths of males due to respiratory system diseases were 21.879. It is predicted that this number will reach 34.820 in 2010 and 94.920 in 2030. It is also forecasted that respiratory system diseases will increase by 4.3 times during the 30 year period as illustrated in Figure 6 (4).

In Turkey, there is a lack of nationwide studies in both asthma and rhinitis. Most of the studies have concentrated on the prevalence of asthma in both children and adults from different regions

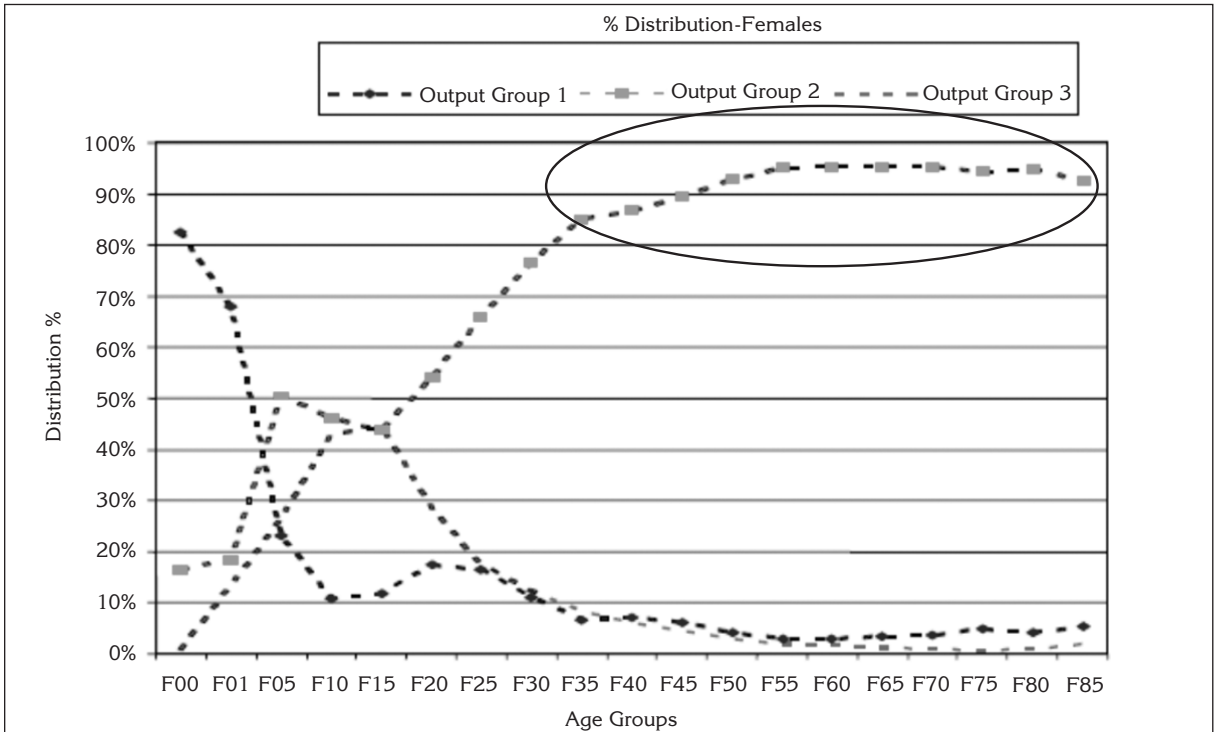


Figure 3. Distribution of the percentage disease groups in females males in Turkey (NBD-CE Project, 2000, Turkey)(4).

Group I: Communicable, maternal causes, perinatal causes and nutritional deficiencies.

Group II: Non-communicable diseases; cardiovascular system diseases, respiratory system diseases, digestive system diseases, endocrine, nutritional and metabolic diseases, sense organ disorders, genitourinary system diseases, malign neoplasms, musculoskeletal diseases and neurologic disorders, neuropsychiatric disorders and mouth and dental health disorders.

Group III: Injuries; intentional and unintentional injuries.

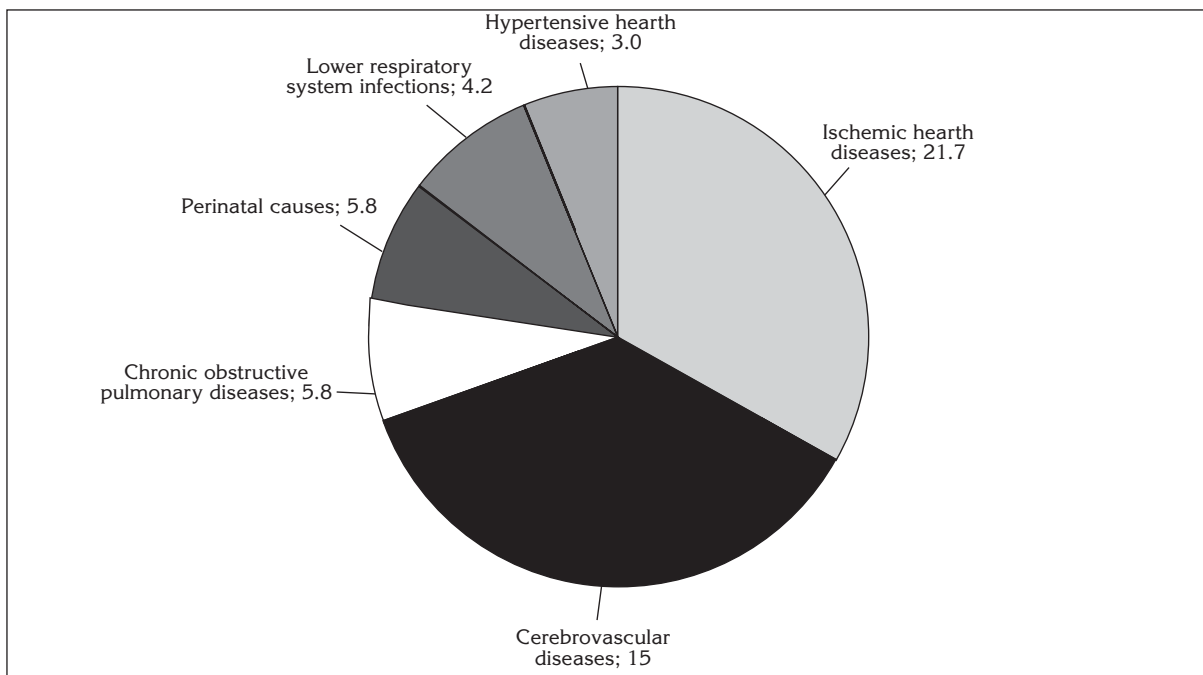


Figure 4. Causes of death (all ages) for both sexes in Turkey in 2000 (NBD-CE Project, 2000, Turkey) (4).

Table 1. The percentage distribution of the top 20 diseases causing death at in Turkey (NBD-CE Project, 2000, Turkey) (4,6).

Males	%	Females	%
1 Ischemic heart disease	20.7	Ischemic heart disease	22.9
2 Cerebrovascular disease	14.5	Cerebrovascular disease	15.7
3 COPD	7.8	Perinatal causes	5.9
4 Perinatal causes	5.6	Lower respiratory infections	4.5
5 Trachea, bronchus and lung cancers	4.4	COPD	3.5
6 Lower respiratory infections	4.0	Hypertensive heart disease	3.3
7 Hypertensive heart disease	2.7	Diabetes mellitus	2.9
8 Road traffic accidents	2.6	Breast cancer	2.1
9 Inflammatory heart diseases	1.8	Inflammatory heart diseases	2.0
10 Congenital anomalies	1.6	Diarrhoeal diseases	1.6
11 Diabetes mellitus	1.6	Congenital anomalies	1.5
12 Diarrhoeal diseases	1.4	Nephritis and nephrosis	1.4
13 Stomach cancer	1.4	Rheumatic heart disease	1.3
14 Leukaemia	1.2	Road traffic accidents	1.2
15 Bladder cancer	1.1	Stomach cancer	1.2
16 Tuberculosis	1.0	Lymphomas and multiple myeloma	0.9
17 Colon and rectum cancers	1.0	Falls	0.9
18 Peptic ulcer disease	1.0	Peptic ulcer disease	0.9
19 Lymphomas and multiple myeloma	1.0	Ovary cancer	0.8
20 Falls	0.9	Colon and rectum cancers	0.8

COPD: Chronic obstructive pulmonary disease.

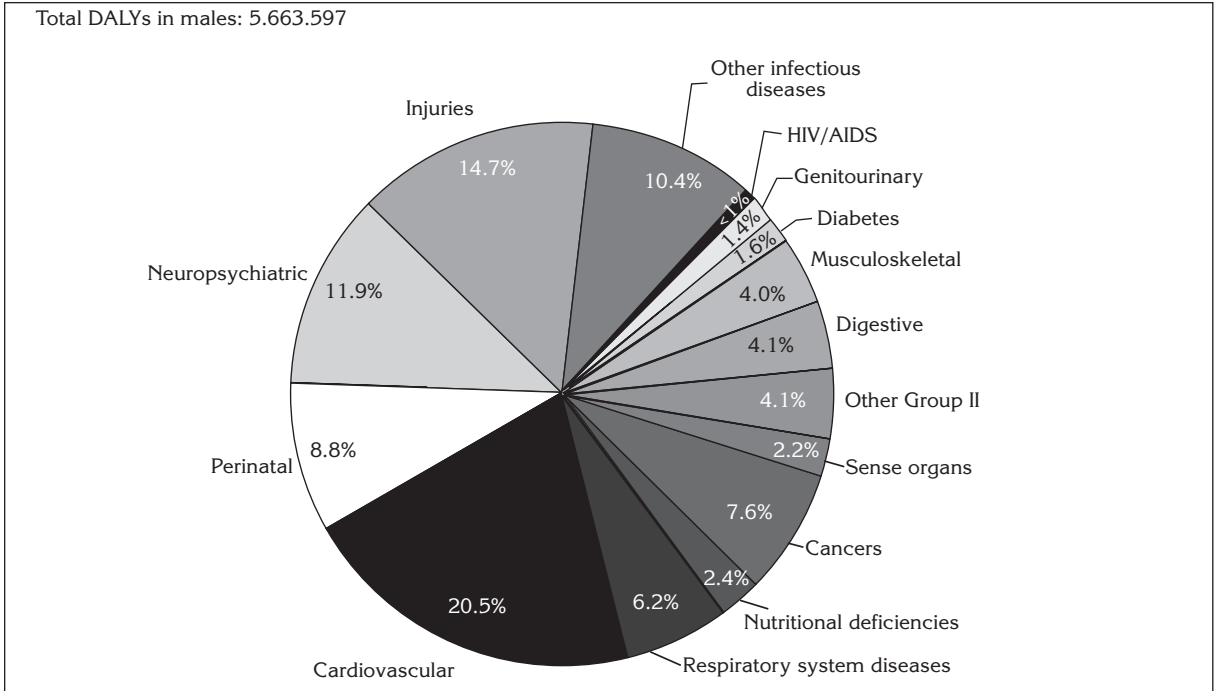


Figure 5. The percentage distribution of DALYs according to main disease groups in males in Turkey (NBD-CE Project, 2000, Turkey)(4).

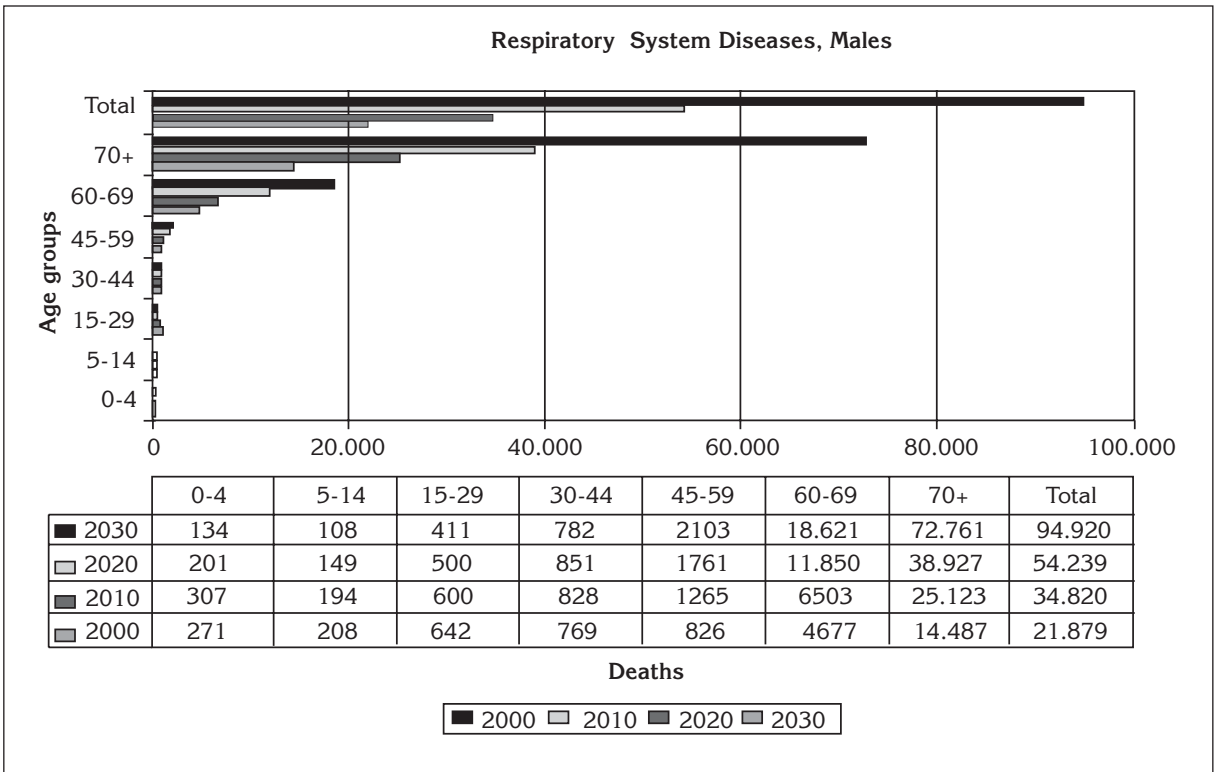


Figure 6. Expected deaths in 2010, 2020 and 2030 (NBD-CE Project, 2000, Turkey) (4).

of the country. In general, three different methodologies have been used for the epidemiological studies of childhood asthma in Turkey (9-28). "The International Study of Asthma and Allergies in Childhood (ISAAC)" questionnaire; the ATS questionnaire adapted by Turkish National Society of Allergy and Clinical Immunology; and Aberg's questionnaire. For the adult studies, on the other hand, a majority of studies have used the "European Community Respiratory Health Survey (ECRHS)" method.

These studies show that, depending upon the geographical region, the asthma prevalence in childhood varies between 2-15% in childhood and 2-5% in adults (14-29). Asthma is among the top 20 diseases causing high mortality in the country; it is ranked 20<sup>th</sup> rank in males residing in urban areas and 17<sup>th</sup> rank in females in rural areas (9-28).

### RISK FACTORS

Smoking is a very common in Turkey. The total number of cigarettes consumed in Turkey has increased from 37.506 mp (1970) to 115.500 mp (2000), an increase of 207% overall and 34% in per capita cigarette consumption. Overall, Turkey accounted for 2.25% of total world cigarette consumption in 1999 (World Bank) and is major producer of tobacco, accounting for around 4% of the world production. In 2002, its production reduced 119.000 tons, which is a

significant achievement in the face of intense lobbying from tobacco companies (29).

Distribution of burden of disease attributed to tobacco consumption and number of deaths by diseases are presented in Table 2 (4).

As seen in Table 2, tobacco has a major share of 8.6% in burden of relevant diseases. Of tobacco-related diseases, tobacco is a major cause of cardiovascular diseases (3%) and chronic obstructive pulmonary diseases (COPD) (1.4%) (4,5).

Prevention of smoking will prevent 54.699 deaths, 52.905 in males and, the number of deaths among females will be 1794 as shown in Figure 7.

Other risk factors such as indoor air pollution are important risk factors of COPD, in particular in non-smoking women.

Childhood infections, passive smoking, family history of asthma and allergies, premature birth, living at lower altitudes and higher atmospheric pressure may increase the risk of asthma. The data suggest that, as in most countries, asthma is more common in males during childhood and among females after adolescence. Successive studies using the same methodology suggest that the prevalence is increasing in Istanbul, Izmir and Adana but in the latter city has been more constant over several years (23-25).

**Table 2. Distribution of burden of disease attributed to tobacco consumption and number of deaths by diseases (4).**

Disease	Attributable deaths	Attributable YLL	Attributable DALYs	Attributable DALYs as a proportion of total DALYs
Trachea bronchus lung cancers	10.510	107.075	112.634	1.0
Upper aerodigestive cancer	1340	15.593	16.469	0.2
Other cancers	3341	43.163	45.833	0.4
Chronic obstructive pulmonary disease	12.902	72.689	150.406	1.4
Other respiratory diseases	2105	33.387	58.377	0.5
Cardiovascular diseases	21.317	274.770	321.237	3.0
Selected other medical causes	3185	50.006	226.953	2.1
<b>All causes</b>	<b>54.699</b>	<b>596.684</b>	<b>931.909</b>	<b>8.6</b>



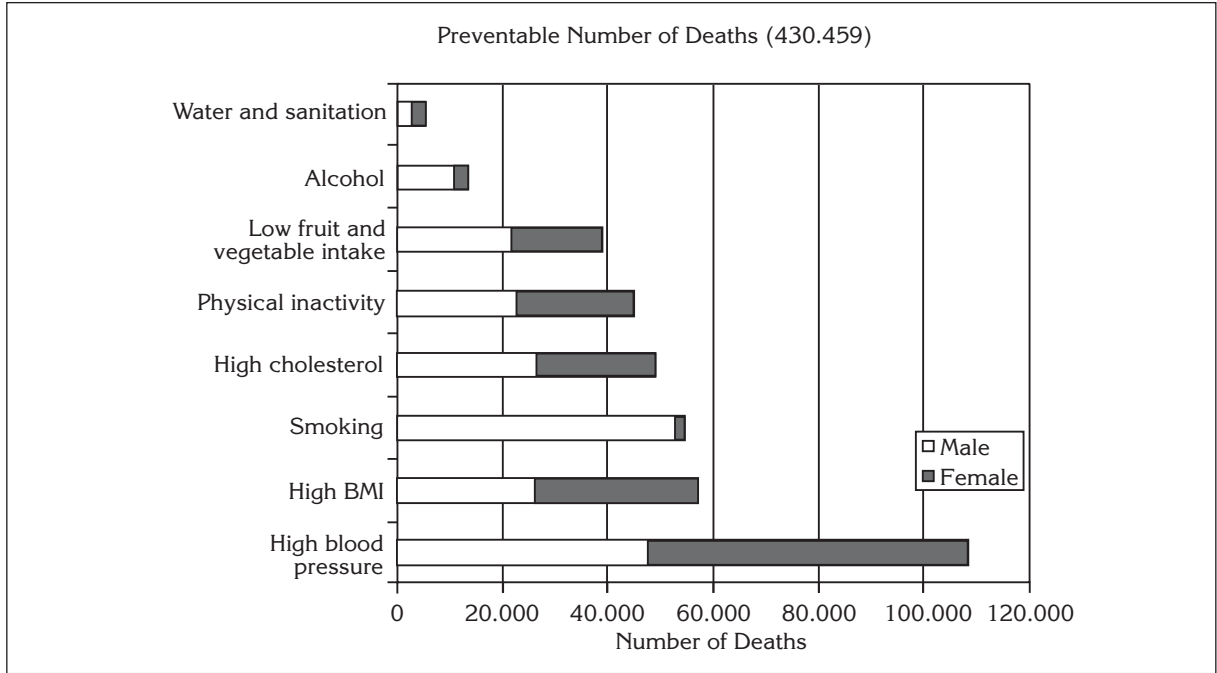


Figure 7. The Distribution of the number of preventable deaths when selected factors in overall Turkey are eliminated (NBD-CE Project, 2000, Turkey)(4).

#### DEVELOPMENT of GARD TURKEY

The GARD Turkey committee resolved to prepare "The National Control Program and Action Plan in Chronic Airway Diseases (Asthma and COPD) based on the national data and highlighting chronic respiratory diseases as a major cause of death and burden of disease in Turkey, with COPD being of special importance.

The project proposal concerning the situation of the surveillance, prevention and control of these diseases in the country has defined the goals, objectives, expected outputs, planned activities, expected outcomes, costs, potential collaborating parties and stakeholders and expected support.

The project was presented to the MoH, which has approved the project and signed a letter of support for GARD and its work in the country. The General Director of Health Education Department of MoH, has been assigned as GARD representative within the MoH coordinate the GARD programme. Moreover, the WHO and regional office of the WHO have been informed about developments and invited to take part in the project.

The steps involved in establishing a GARD country project are listed in Table 3.

The committee together with MoH, invited the potential collaborating parties and asked them to be involved in the alliance. All parties agreed on the definition and the importance of the alliance.

Professor Arzu Yorgancıoğlu was nominated GARD Turkey coordinator by the MoH.

In order to run an exploratory workshop and define the terms of reference and the structure, GARD Turkey General Assembly was organized

**Table 3. Steps in establishing a GARD country project.**

1. Agreeing on a definition of the alliance
2. Nominating the GARD country coordinator
3. Identifying other partners
4. Running an exploratory workshop
5. Defining the terms of reference
6. Defining the structure
7. Identifying outcomes

with participation by representatives of the collaborating parties in October 26, 2007. Duties and responsibilities of the all parties were determined, and action plans prepared for short, medium and long term.

The next step was to report the decisions of the meetings, and approve the report by the parties. This phase was completed in January 2008. Then, other parties were involved and the final document was completed in March 2009.

The signing ceremony of Turkey Chronic Airway Disease Control Program took place in May 2009 with the participation of the Minister of Health, Prof. Dr. Recep Akdag, with representatives of all 43 stakeholders signing on behalf of their organizations. This marked the official launch of

“Turkey Chronic Respiratory Diseases Prevention and Control Program and Action Plan”, which will run from 2009 to 2013.

This process is the first of this nature involving the MoH and an NGO (the TTS) in joint management of a major national programme.

The goals of the project are in line with the GARD action plan to prevent and control chronic respiratory diseases, to reduce their mortality and morbidity, and to reduce the social and economical burden of these diseases. The strategies of the action plans are shown in Table 4.

GARD Turkey Executive Committee has held the first meeting on June 16<sup>th</sup> 2009. Deputy Undersecretary of Ministry of Health opened the

**Table 4. Goals and strategies of Turkish national control program and action plan against chronic airway diseases (C1-6).**

**C.1. The establishment of prevention/control program and action plan against chronic airway disease**

1. Informing the Turkish MoH about GARD country and inviting them to be involved with its development. A project proposal concerning the situation of the surveillance, prevention and control of these diseases in the country by Turkish Thoracic Society to the MoH (**May 2007**)
2. Evaluation and approval of the program by MoH (**May 2007**)
3. Appointing the representative of MoH for the project (**May 2007**) and establishment of a branch of chronic respiratory diseases in MoH (**January 2008**)
4. Informing the WHO regional office and WHO representative about GARD country and invited to be involved with its development (**September 2007**)
5. Identifying other partners and organizing national general meeting with all collaborating parties (**September 2007**)
6. National general meeting (**October 2007**)
  - \*Defining the vision, goal and targets
  - \*Defining the structural body and capacity
    - a. General council
    - b. Executive committee
    - c. Working groups
    - d. The branch of respiratory diseases in MoH
    - e. Regional committees
  - \*Preparing the national action plan (**October-April 2008**)
7. Defining the terms of reference and assignment of the program by parties (**May 2008**)
8. The program and structure by government (**June 2008**)
9. GARD Türkiye launching ceremony (**May 2008**)
10. Advocacy (**January 2008-** )
11. Control and monitoring (**June 2008-** )

**C.2. Advocacy and awareness**

- C.2.1.** Defining the goals and principles of the program
- C.2.2.** Introducing the program to health professionals by these principles

**Table 4. Goals and strategies of Turkish national control program and action plan against chronic airway diseases (C1-6).**

C.2.3. Introducing the program to educational units by these principles

C.2.4. Introducing the program to public by these principles

**C.3. Preventing the development of disease**

C.3.1. Reducing smoking

C.3.2. Reducing environmental smoking

C.3.3. Reducing indoor air pollution

C.3.4. Reducing outdoor air pollution

C.3.5. Reducing occupational risk factors

C.3.6. Reducing allergen exposure

C.3.7. Prevention and management of childhood infections

C.3.8. Generalizing physical activities and healthy nutrition

**C.4. Early detection of diseases and prevention of progress**

C.4.1. Increasing awareness of early detection among public and health professionals

C.4.2. Supplying and expanding the usage of spirometry

C.4.3. Easy access to healthcare services

C.4.4. Eliminating the risk factors (smoking, infection, occupational)

C.4.5. Easy access to medicine and treatment equipment

C.4.6. Proper recording and monitoring

C.4.7. Decreasing allergen burden

**C.5. Effective treatment of the diseases and prevention of complication development**

C.5.1. Education of patients and health care professionals about appropriate treatment

C.5.2 Expanding home care services

C.5.3. Expanding pulmonary rehabilitation services

C.5.4. Easy access to medicine and treatment equipment

C.5.5. Proper recording and monitoring

**C.6. Monitoring the chronic diseases and the control program evaluation**

**Goal 1. (C.6.1)** Monitoring the disease burden and risk factors, developing standardized methods for obtaining proper data and collect data with these methods

**Strategies:**

C.6.1.1. Collection and evaluation of current national and international data

C.6.1.2. Collection of COPD and asthma specific prevalence and incidence data

C.6.1.3. Defining the methods for obtaining reliable and comparable data

C.6.1.4. Monitoring the disease burden by defined intervals

C.6.1.5. Establishment of a unit for collecting, analysing and reporting data within MoH

**Goal 2. (C.6.2.) Monitoring, yearly evaluating and reporting of the program**

**Strategies:**

C.6.2.1. Defining the survey and outcomes of the program

C.6.2.2. Preparing data collection/investigation protocols for routine use.

C.6.2.3. Collection and evaluation of the data

C.6.2.4 Preparing annual national report

**Table 5. Collaborating parties of GARD Turkey.**

**UNIVERSITY and NON-GOVERNMENTAL ORGANIZATIONS**

Federation of Family Physician Societies  
Turkish Thoracic Society (GARD member)  
Turkish National Society of Allergy and Clinical Immunology (GARD member)  
The Alliance of Turkish Pharmacists  
The Society of Public Health  
Turkish Society of Family Physicians  
The Society of General Practitioners  
The Society of Medical Oncology  
Turkish Medical Association  
Turkish Association of Municipalities

**GOVERNMENTAL ORGANIZATIONS**

**Turkish MoH**

General Directorate of Primary Health Care Services  
- Department of Non-Communicable Diseases and Chronic Conditions (Respiratory System Diseases Unit)  
- Department of Health Promotion  
- Department of Zoonotic Diseases  
General Directorate of Pharmaceuticals and Pharmacy  
General Directorate of Curative Services  
General Directorate of Health Education  
General Directorate of Maternal/Child and Family Planning  
Personnel General Directorate  
Strategy Development Presidency  
Department of EU Coordination  
Department of Information Processing  
Department of Cancer Control  
Department of Tuberculosis Control  
Refik Saydam Hygiene Center Presidency  
Refik Saydam Hygiene Center Presidency, School of Public Health

**OTHER GOVERNMENTAL ORGANIZATIONS**

Turkish Ministry of National Education  
Turkish Ministry of Industry and Commerce  
Turkish National Institute of Statistics  
Turkish Ministry of Internal Affairs  
Turkish Ministry of Labour and Social Security  
- Social Security Institute  
- General Directorate for Occupational Health and Safety  
Turkish Ministry of Environment and Forestry  
Turkish Ministry of Finance  
Turkish Ministry of Agriculture  
General Directorate of Youth and Sport  
Tobacco, Tobacco Products and Alcoholic Beverages Regulatory Authority

**Table 5. Collaborating parties of GARD Turkey (continued).**

Turkish Radio and Television Supreme Council
General Directorate of Turkish Radio and Television Corporation
The Presidency of Religious Affairs
Turkish State Planning Organization
World Health Organization (Regional representative)

meeting, GARD Country Coordinator Prof. Dr. Arzu Yorgancıoğlu has been elected as President of Executive Committee, and the Head Department of Non-Communicable Diseases and Chronic Diseases, Dr. Nazan Yardim has been elected as vice president by consensus.

Details of each action plan have been discussed, and chair of each working group have chosen short, medium and long term activities. Chairpersons will contact the members in order to implement the plans. Executive committee will meet on September, and the II. general assembly will meet on October.

#### INTEGRATION of GARD TURKEY in the TURKISH NCD ACTION PLAN

In order to prevent and control non-communicable diseases (NCDs), the 61<sup>st</sup> WHA has endorsed an NCD action plan (*WHA Resolution 61.14*) (1). This plan is intended to support coordinated, comprehensive and integrated implementation of strategies and evidence-based interventions across individual diseases and risk factors, especially at the national and regional levels. There are six objectives and actions proposed. A package for essential NCDs including chronic respiratory diseases (CRDs) has been developed.

In order to follow these recommendations, the Turkish MoH has decided to apply this national control program in conformity with other NCD action plans of which some of them have been finalized such as cardiovascular diseases, obesity and tobacco. All these programs are trying to be integrated with each other in terms of planning and application.

#### REFERENCES

1. World Health Organization World Health Report 2004; *Changing History*. Geneva: World Health Organization, 2004.
2. GARD Book *Global Surveillance, Prevention and Control of Chronic Respiratory Diseases: A Comprehensive Approach*. ISBN 978 92 4 156346 8 (NLM Classification: WF 140) © World Health Organization 2007.
3. *Action Plan of the Global Alliance Against Chronic Respiratory Diseases, 2008-2013*, © World Health Organization 2008, ISBN 978 92 4 159720 3.
4. *National Burden of Disease and Cost Effectiveness Project, Burden of Disease Final Report*, Ministry of Health Refik Saydam Hygiene Center Presidency School of Public Health Ankara 2004.
5. *Health at a Glance Turkey 2007*, Ministry of Health Refik Saydam Hygiene Center Presidency School of Public Health 2007.
6. *Kronik Hava Yolu Hastalıklarını Önleme ve Kontrol Programı (2009-2013)* T.C. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü, Ankara: Koza Matbaacılık, 2009, ISBN: 978-975-590-287-6.
7. Kocabaş A, Hancıoğlu A, Türkyılmaz S, et al. Prevalence of COPD in Adana, Turkey (BOLD-Turkey Study) [abstract]. 2006; 3: A543.
8. Kocabaş A, Türkyılmaz AS, Unalan T, et al. Underdiagnosis and undertreatment of COPD in Adana Turkey (BOLD-Turkey Study). *Eur Respir J* 2006; 28(Supp 50): 446.
9. Kalyoncu AF, Selçuk ZT, Karakoca Y, et al. Prevalence of childhood asthma and allergic diseases in Ankara, Turkey. *Allergy* 1994; 49: 485-8.
10. Kucukoduk S, Aydın M, Cetinkaya F, et al. The prevalence of asthma and other allergic diseases in a province of Turkey. *Turk J Pediatr* 1996; 38: 149-53.
11. Selçuk ZT, Çağlar T, Enunlu T, Topal T. The prevalence of allergic diseases in primary school children in Edirne, Turkey. *Clin Exp Allergy* 1997; 27: 262-9.
12. Karaman O, Türkmen M, Uzuner N. Allergic disease prevalence in Izmir. *Allergy* 1997; 52: 689-90.
13. Saraclar Y, Sekerel BE, Kalaycı O, et al. Prevalence of asthma symptoms in school children in Ankara, Turkey. *Respir Med* 1998; 92: 203-7.

14. Celik G, Mungan D, Bavbek S, et al. The prevalence of allergic diseases and atopy in Ankara, Turkey: A two-step population-based epidemiological study. *J Asthma* 1999; 36: 281-90.
15. Akcakaya N, Kulak K, Hassanzadeh A, et al. Prevalence of bronchial asthma and allergic rhinitis in Istanbul school children. *Eur J Epidemiol* 2000; 16: 693-9.
16. Turktas I, Selcuk ZT, Kalyoncu AF. Prevalence of asthma-associated symptoms in Turkish children. *Turk J Pediatr* 2001; 43: 1-11.
17. Ece A, Ceylan A, Saraclar Y, et al. Prevalence of asthma and other allergic disorders among schoolchildren in Diyarbakir, Turkey. *Turk J Pediatr* 2001; 43: 286-92.
18. Saraclar Y, Kuyucu S, Tuncer A, et al. Prevalence of asthmatic phenotypes and bronchial hyperresponsiveness in Turkish schoolchildren: An International Study of Asthma and Allergies in Childhood (ISAAC) phase 2 study. *Ann Allergy Asthma Immunol* 2003; 91: 477-84.
19. Demir AU, Karakaya G, Bozkurt B, et al. Asthma and allergic diseases in schoolchildren: Third cross-sectional survey in the same primary school in Ankara, Turkey. *Pediatr Allergy Immunol* 2004; 15: 531-8.
20. Bayram I, Gunecer-Kendirli S, Yilmaz M, et al. The prevalence of asthma and allergic diseases in children of school age in Adana in southern Turkey. *Turk J Pediatr* 2004; 46: 221-5.
21. Dinmez S, Ogus C, Erengin H, et al. The prevalence of asthma, allergic rhinitis, and atopy in Antalya, Turkey. *Allergy Asthma Proc* 2005; 26: 403-9.
22. Demir E, Tanac R, Can D, et al. Is there an increase in the prevalence of allergic diseases among schoolchildren from the Aegean region of Turkey? *Allergy Asthma Proc* 2005; 26: 410-4.
23. Ones U, Akcay A, Tamay Z, et al. Rising trend of asthma prevalence among Turkish schoolchildren (ISAAC phases I and III). *Allergy* 2006; 61: 1448-53.
24. Kurt E, Metintaş S, Başıyigit İ, et al. Prevalence and risk factors of allergies in Turkey (PARFAIT Study): Results of a multicentric cross-sectional study in children. *Pediatr Allergy Immunol* 2007; 18: 566-74.
25. Kalyoncu AF, Demir AU, Ozcakar B, et al. Asthma and allergy in Turkish university students: Two cross-sectional surveys 5 years apart. *Allergol Immunopathol (Madr)* 2001; 29: 264-71.
26. Yuksel H, Dinc G, Sakar A, et al. Prevalence and comorbidity of allergic eczema, rhinitis, and asthma in a city in western Turkey. *J Invest Allergol Clin Immunol* 2008; 18: 31-5.
27. Yuksel H, Sakar A, Dinç G, et al. The frequency of wheezing phenotypes and risk factors for persistence in aegean region of Turkey. *J Asthma* 2007; 44: 89-93.
28. Sakar A, Yorgancioglu A, Dinc G, et al. The prevalence of asthma and allergic symptoms in Manisa, Turkey (A western city from a country bridging Asia and Europe). *Asian Pac J Allergy Immunol* 2006; 24: 17-25.
29. Turkey Health Report Ministry of Health Refik Saydam Hygiene Center Presidency School of Public Health, Ankara 2004, SB-HM-2004/01.