

RAKAMLARLA AĐIR ASTIM: -ERİŐKİNDE- NE KADAR SIK NE KADAR SORUN



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İmmünoloji ve Alerji Bilim Dalı

RAKAMLARLA AĞIR ASTIM: -ERİŐKİNDE- NE KADAR SIK NE KADAR SORUN



- Sıklık
- Mortalite
- Hastalık yükü (DALYs)
- Maliyet
- Psikolojik boyutu

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- Sıklık
- Mortalite
- Hastalık yk (DALYs)
- Ekonomik boyutu
- Psikolojik boyutu

Global Burden of Disease Study (GBD) undertaken in 2000-2002

Asthma affects
235 million people
today and the
prevalence is rising.



Asthma may affect
as many as
334 million people.*



Global Burden of Disease Study (GBD) undertaken in 2008-2010

ASTHMA IN ADULTS

THE EUROPEAN COMMUNITY RESPIRATORY HEALTH SURVEY (ECRHS)

Astım semptomu, astım atakları, tedavi

20-44 yaş arası

1991-1994 (Daha çok Batı Avrupa; 22 ülke, 48 merkez)

THE WORLD HEALTH SURVEY (WHS)

Semptom, astım tanısı

≥18 yaş

2002-2003 (70 ülke)

THE GLOBAL ALLERGY AND ASTHMA NETWORK OF ExCELLENCE (GA²LEN)

15-74 yaş

2008-2009 (Avrupa Ülkeleri; 12 ülke, 19 merkez)

Eur Respir J 1996; 9: 687-695

Eur Respir J 2010; 35: 279-286

Allergy 2012; 67: 91-98

ECRHS

wheeze

'Have you had wheezing or whistling in your chest at any time in the last 12 months?'

dg asthma

A positive response to at least one of the following:

(i) 'Have you had an asthma attack in the last 12 months?', (ii) 'Are you currently taking medication for the treatment of asthma?'

GA²LEN

asthma

Reporting 'ever had asthma'

AND reporting at least one of the following symptoms in the last 12 months

- (i) wheeze or whistling in the chest
- (ii) waking with chest tightness
- (iii) waking with shortness of breath
- (iv) waking with an attack of coughing in 15-74 year olds

Prevalence (in %) of 'wheeze' and 'diagnosed asthma' in the European Community Respiratory Health Survey (ECRHS) and the Global Allergy and Asthma Network of Excellence (GA²LEN) *

Country	Centre	ECRHS		GA ² LEN	Country	Centre	ECRHS		GA ² LEN
		wheeze ¹	dg asthma ²	asthma ³			wheeze ¹	dg asthma ²	asthma ³
Iceland	Reykjavik	18.0	3.4		UK	Caerphilly	29.8	8.0	
Norway	Bergen	24.6	4.3			Cambridge	25.2	8.4	
Sweden	Göteborg	23.2	5.8	7.1		Dundee	28.4		
	Stockholm			8.6		Ipswich	25.5	7.8	
	Umeå	19.8	6.8	11.2		London			11.4
	Uppsala	19.2	6.0	9.5		Norwich	25.7	7.5	
Finland	Helsinki			7.8		Southampton			14.2
Estonia	Tartu	26.8	2.0		Ireland	Dublin	32.0	5.0	
Denmark	Aarhus	24.1	4.0		Kilkenny- Wexford	24.0	5.4		
	Odense			8.6	Greece	Athens	16.0	2.9	
Poland	Katowice			5.2	Italy	Palermo			10.7
	Krakow			7.1		Pavia	8.5	3.3	
	Lodz			6.0		Turin	10.7	4.5	
Netherlands	Amsterdam			6.4	Verona	9.7	4.2		
	Bergen op Zoom	19.7	4.7		Spain	Albacete	25.0	3.9	
	Geleen	20.9	4.4			Barcelona	19.2	3.1	
Groningen	21.1	4.3		Galdakao		16.2	2.1		
Belgium	Antwerp city	20.6	4.6			Huelva	29.2	6.3	
	Antwerp south	12.8	2.7			Oviedo	21.0	3.6	
	Ghent			7.6		Seville	22.6	5.0	
Germany	Brandenburg			6.3	Portugal	Coimbra	19.0	6.0	16.8
	Duisburg			10.1		Oporto	17.7	4.3	
	Erfurt	13.3	2.1		Algeria	Algiers	4.2	3.0	
	Hamburg	21.1	4.4		India	Bombay	4.1	3.5	
Austria	Vienna	14.3	3.1		New Zealand	Auckland	25.2	10.1	
France	Bordeaux	15.7	5.5			Christchurch	26.7	11.2	
	Grenoble	14.6	3.5			Hawkes Bay	24.2	9.0	
	Montpellier	14.4	5.0	10.3		Wellington	27.3	11.3	
	Nancy	13.6	3.7		Australia	Melbourne	28.8	11.9	
	Paris	14.5	5.1		USA	Portland, Oregon	25.7	7.1	
Macedonia	Skopje			5.1					

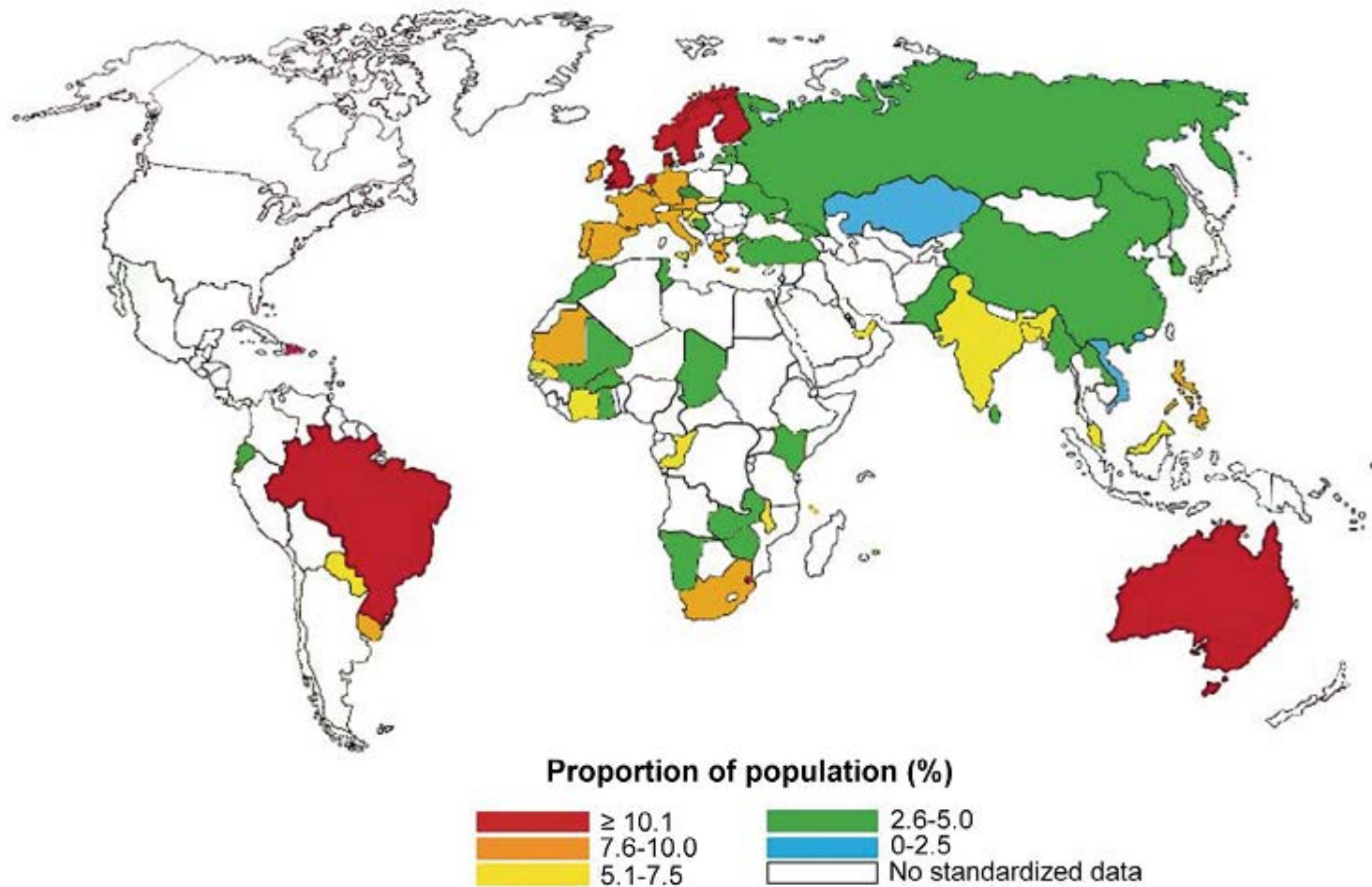


Figure 1 World map of the prevalence of 'current wheezing symptoms' ¹ among 20-44 year olds in the WHS.

Current wheezing symptoms;

'During the last 12 months, have you experienced any of the following:

- (i) attacks of wheezing or whistling breathing?
- (ii) attacks of wheezing that came on after you stopped exercising or some other physical activity?'

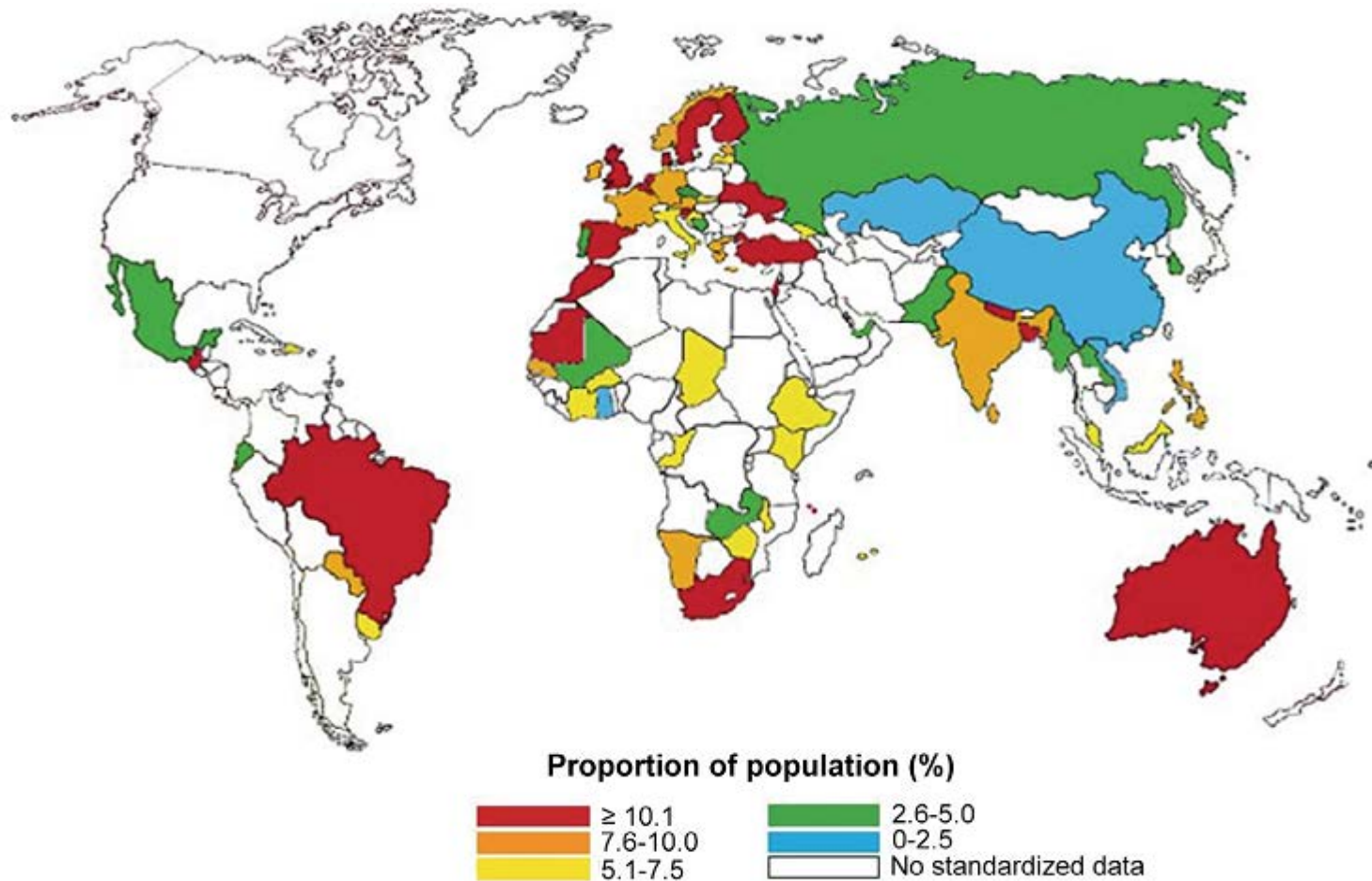


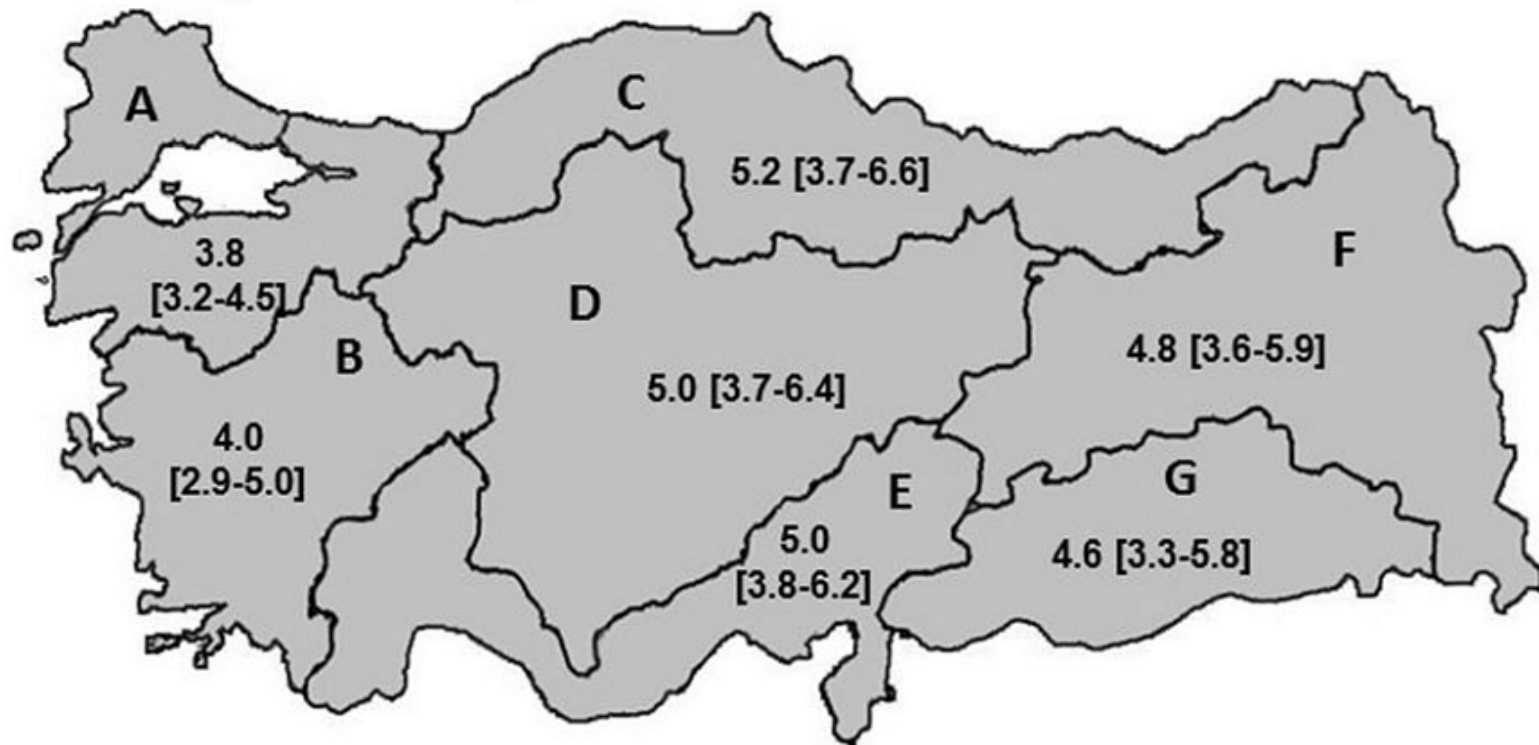
Figure 2 World map of the prevalence of 'diagnosed asthma' ¹ in the WHS.

Diagnosed asthma;

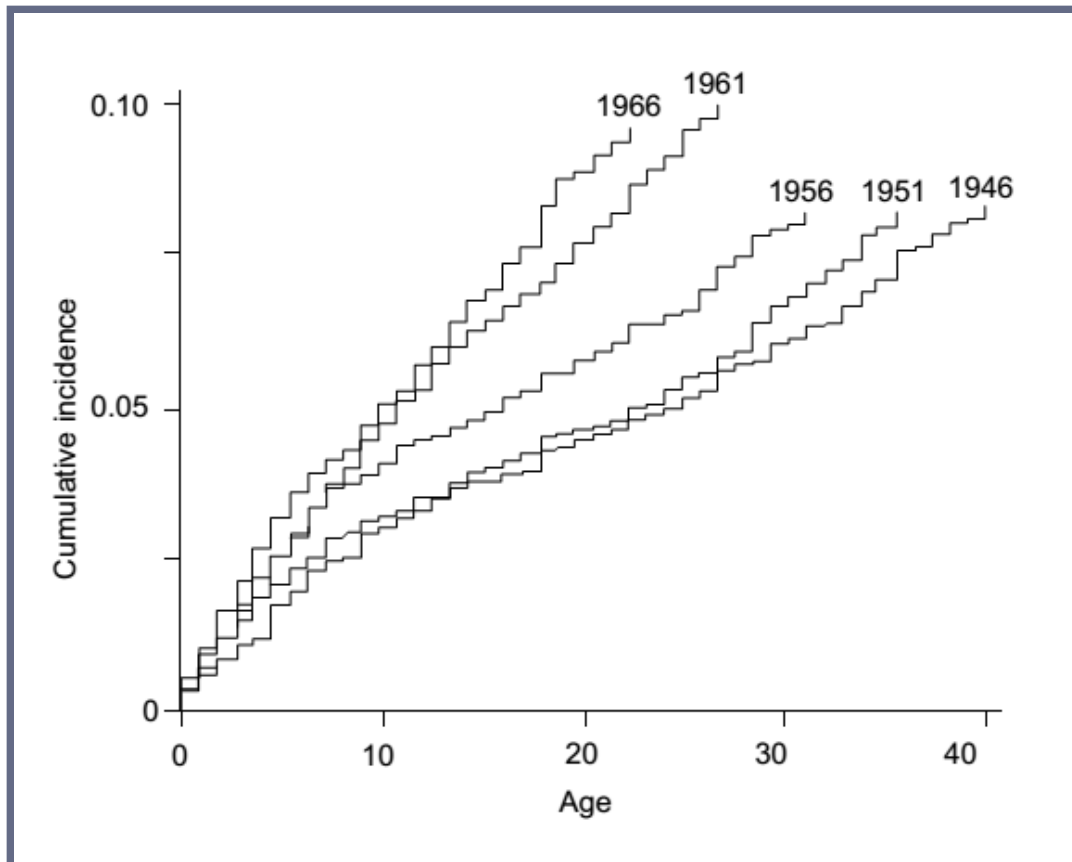
Positive response to any of the following:

- (i) 'have you ever been diagnosed with asthma (an allergic respiratory disease)?';
- (ii) 'have you ever been treated for it?'
- (iii) 'have you been taking any medications or other treatment for it during the last 2 weeks?'

Prevalence of asthma among the adult general population of five Middle Eastern countries: results of the SNAPSHOT program



TIME TRENDS IN ADULT ASTHMA PREVALENCE



ADULT SEVERE ASTHMA

%5-10

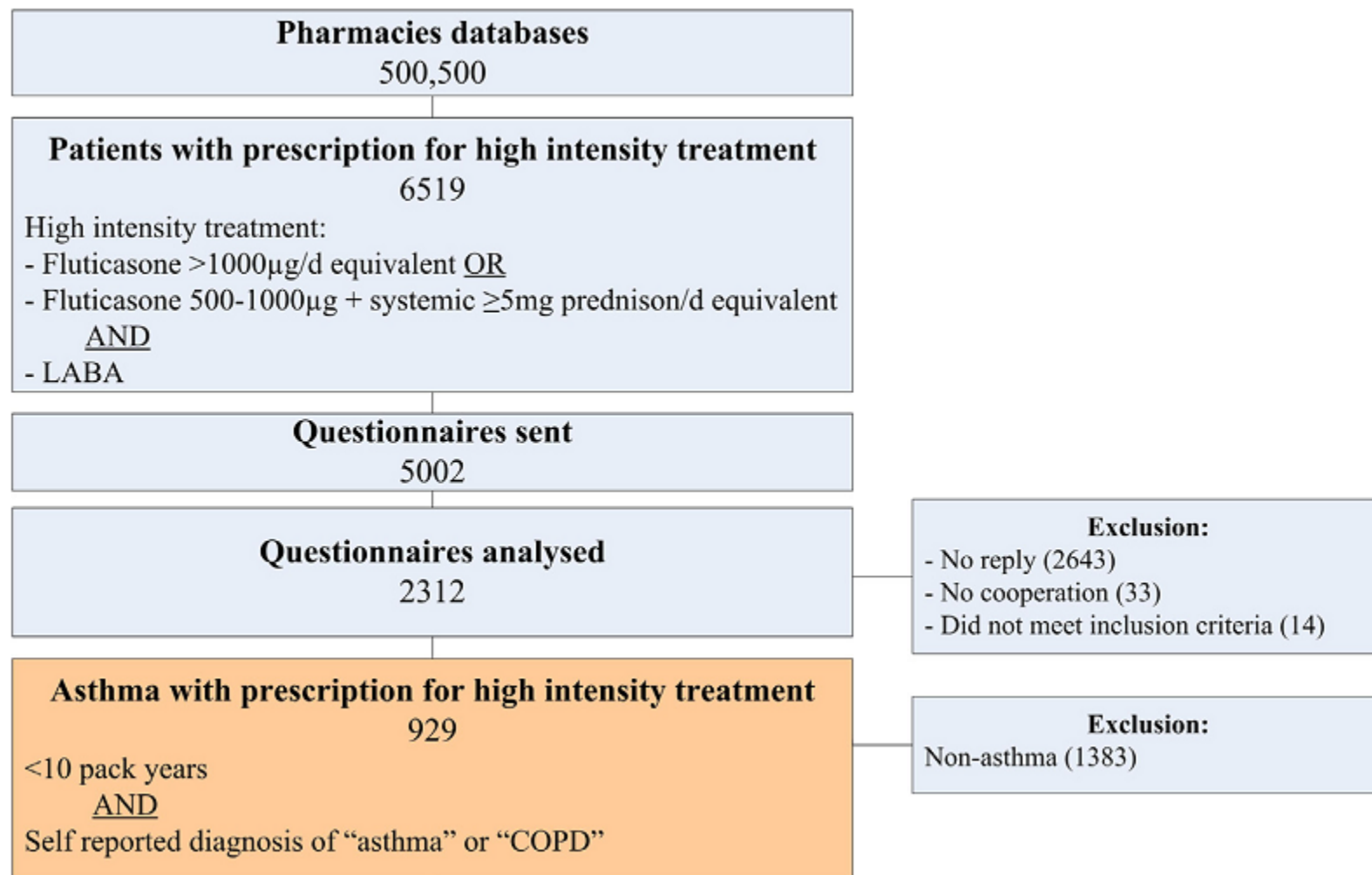


- Barnes PJ, Woolcock AJ. Difficult asthma. *Eur Respir J* 1998;12:1209-18.
- Busse WW, Banks-Schlegel S, Wenzel SE. Pathophysiology of severe asthma. *J Allergy Clin Immunol* 2000;106:1033-42.

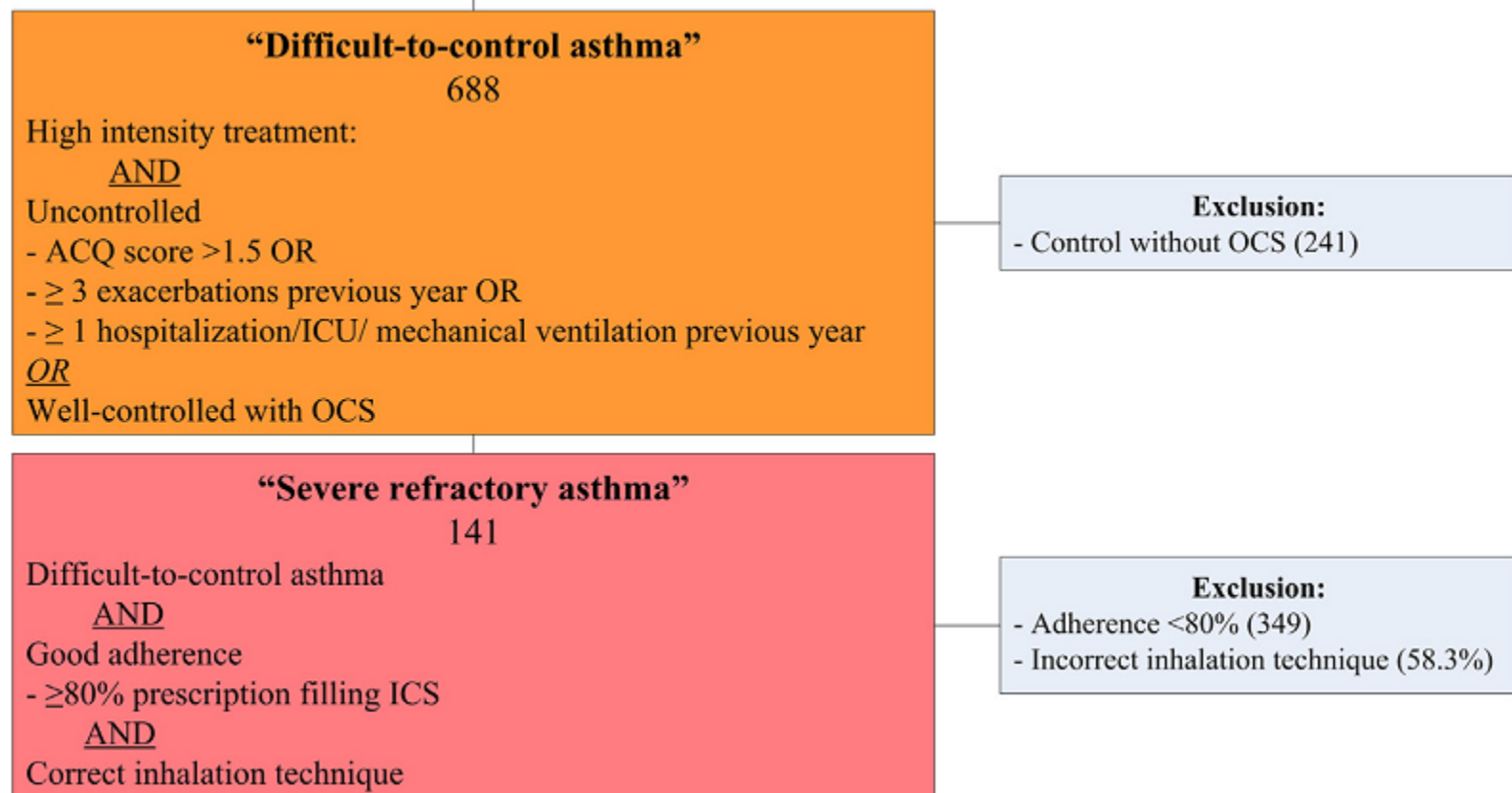
The prevalence of severe refractory asthma

Pieter-Paul W. Hekking, MD,^a Reinier R. Wener, MD,^a Marijke Amelink, MD,^a Aelko H. Zwinderman, PhD,^b
Marcel L. Bouvy, MD, PhD,^c and Elisabeth H. Bel, MD, PhD^a *Amsterdam and Leiden, The Netherlands*

The prevalence of severe refractory asthma



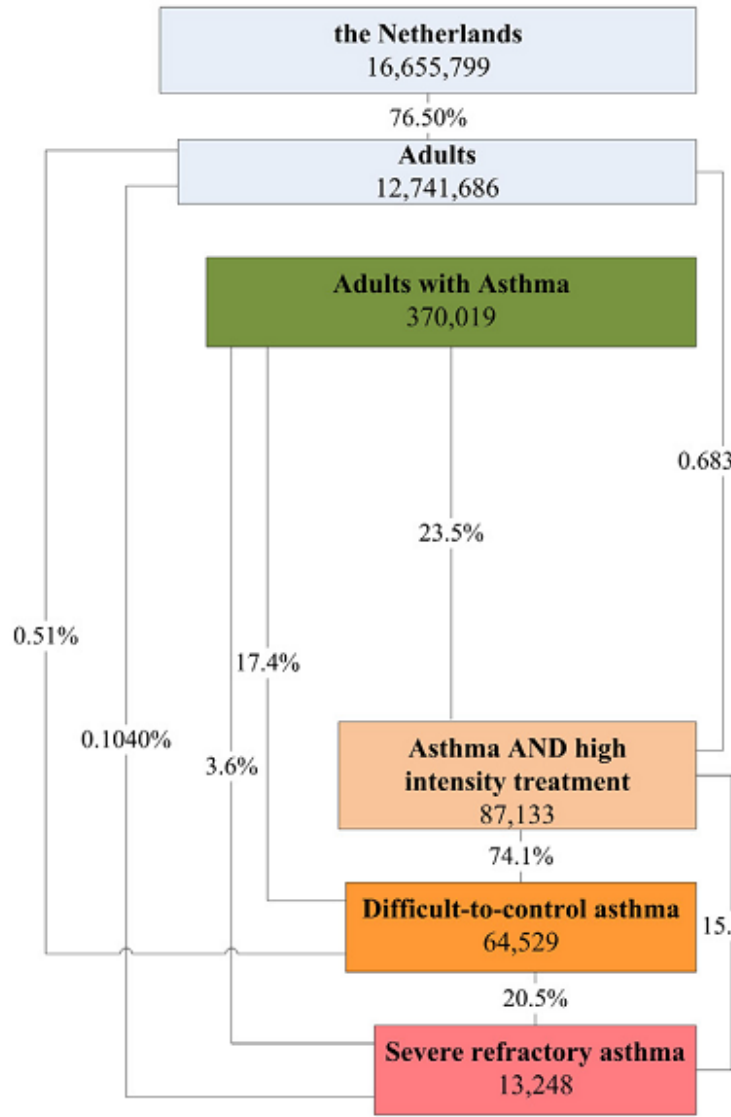
The prevalence of severe refractory asthma



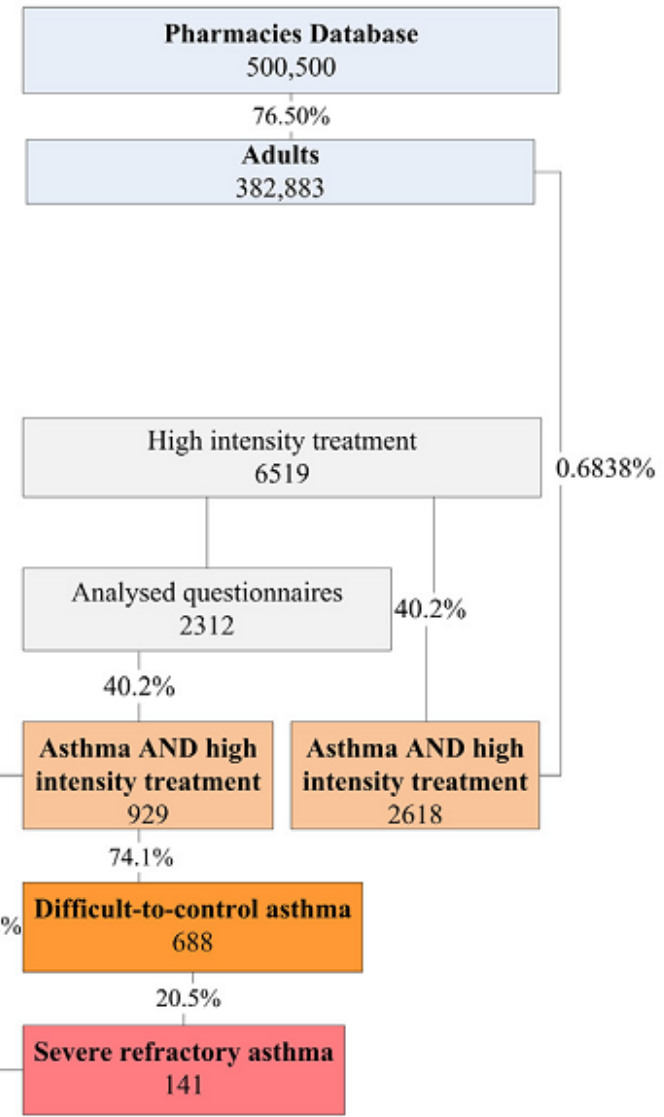
Prevalence “severe refractory asthma” in the Netherlands:

- 3.6% of all adults with asthma
- 10.4 / 10,000 adults

Panel: Dutch Population



Panel: Pharmacies database



The prevalence of severe refractory asthma

Prevalence “severe refractory asthma” in the Netherlands:

- 3.6% of all adults with asthma
- 10.4 / 10,000 adults

Severity and associated risk factors in adult asthma patients in Turkey

Three hundred patients with asthma (73 male, 227 female)



4. Severe asthma:

Continuous symptoms
Limited physical activity
Frequent exacerbations
Frequent nighttime symptoms
 FEV_1 or PEFr $\leq 60\%$ predicted
PEFR variability $> 30\%$



mild intermittent (n: 14, 5%),

mild persistent (n: 220, 73%)

moderate (n: 44, 15%)

severe asthma (n: 22, 7%)

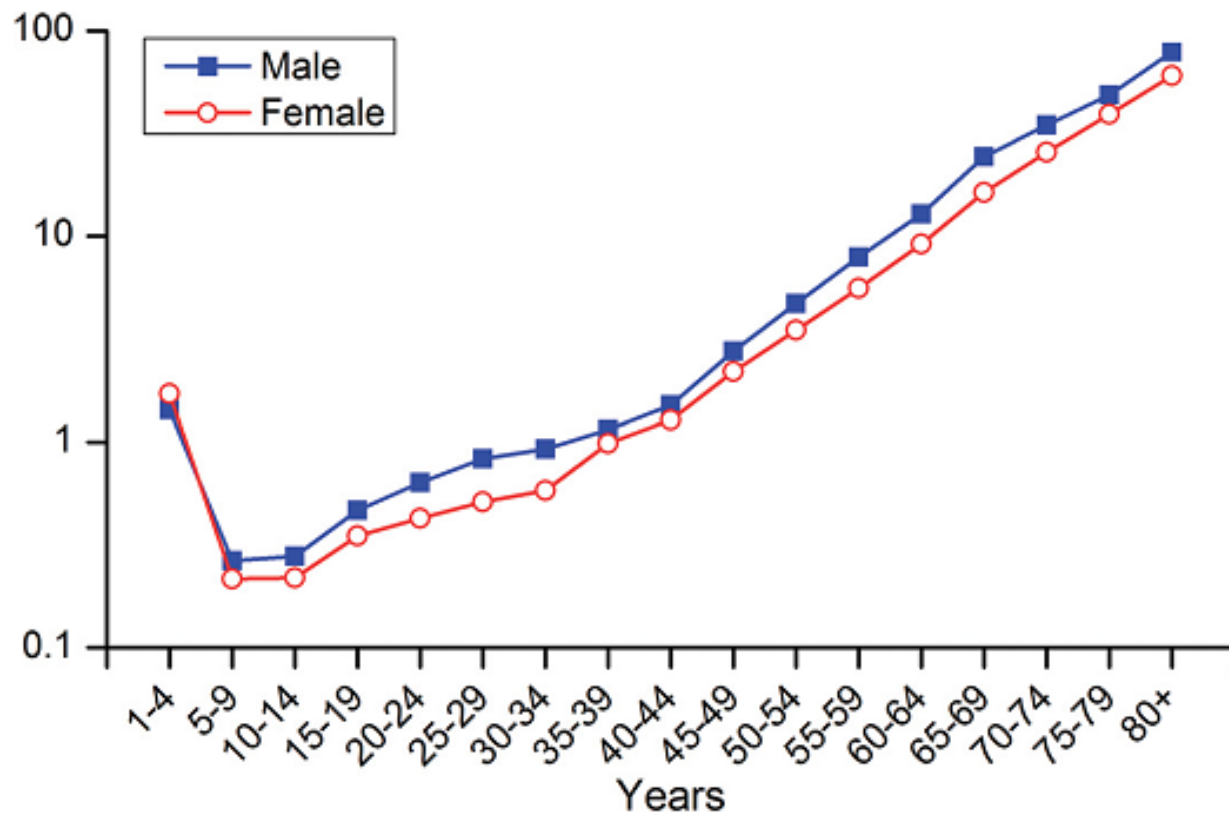
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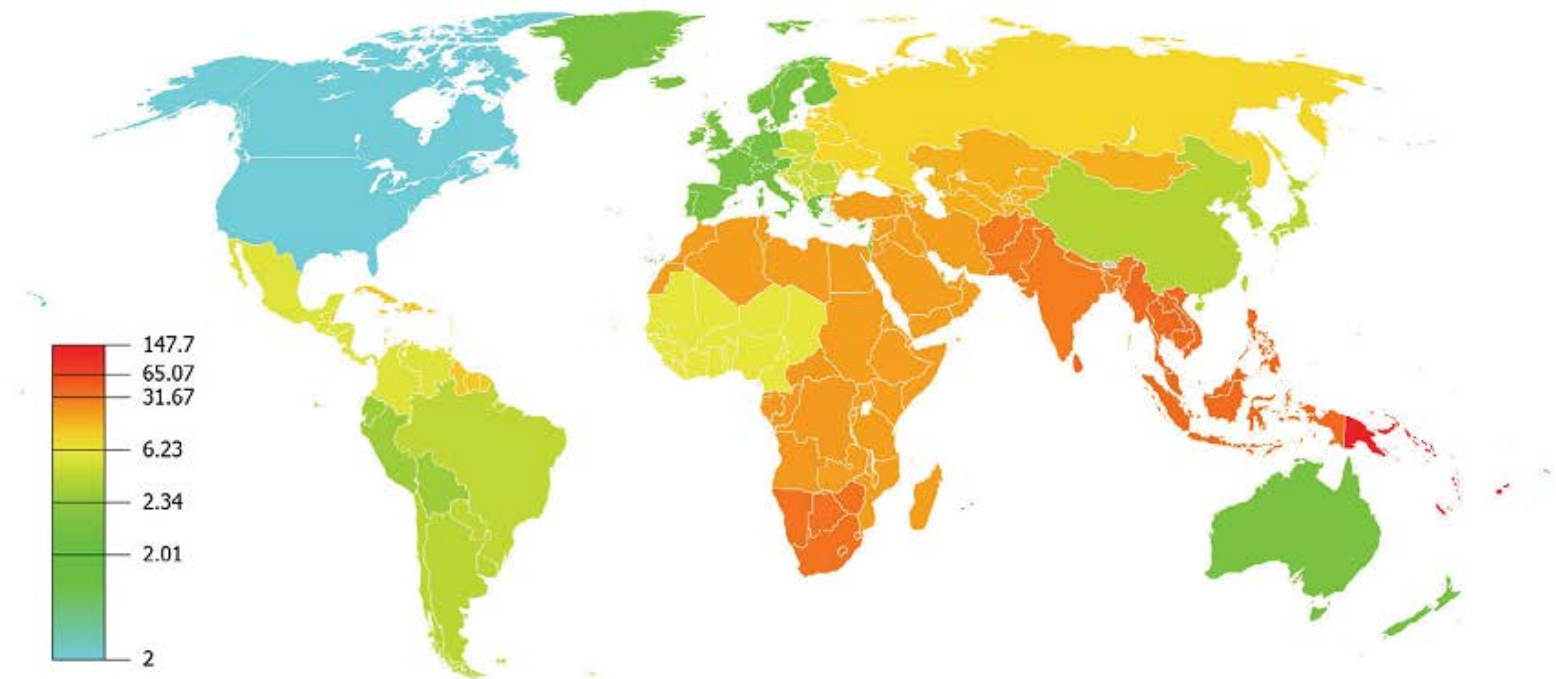
- Sıklık
- Mortalite
- Hastalık yükü (DALYs)
- Maliyet
- Psikolojik boyutu

Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010

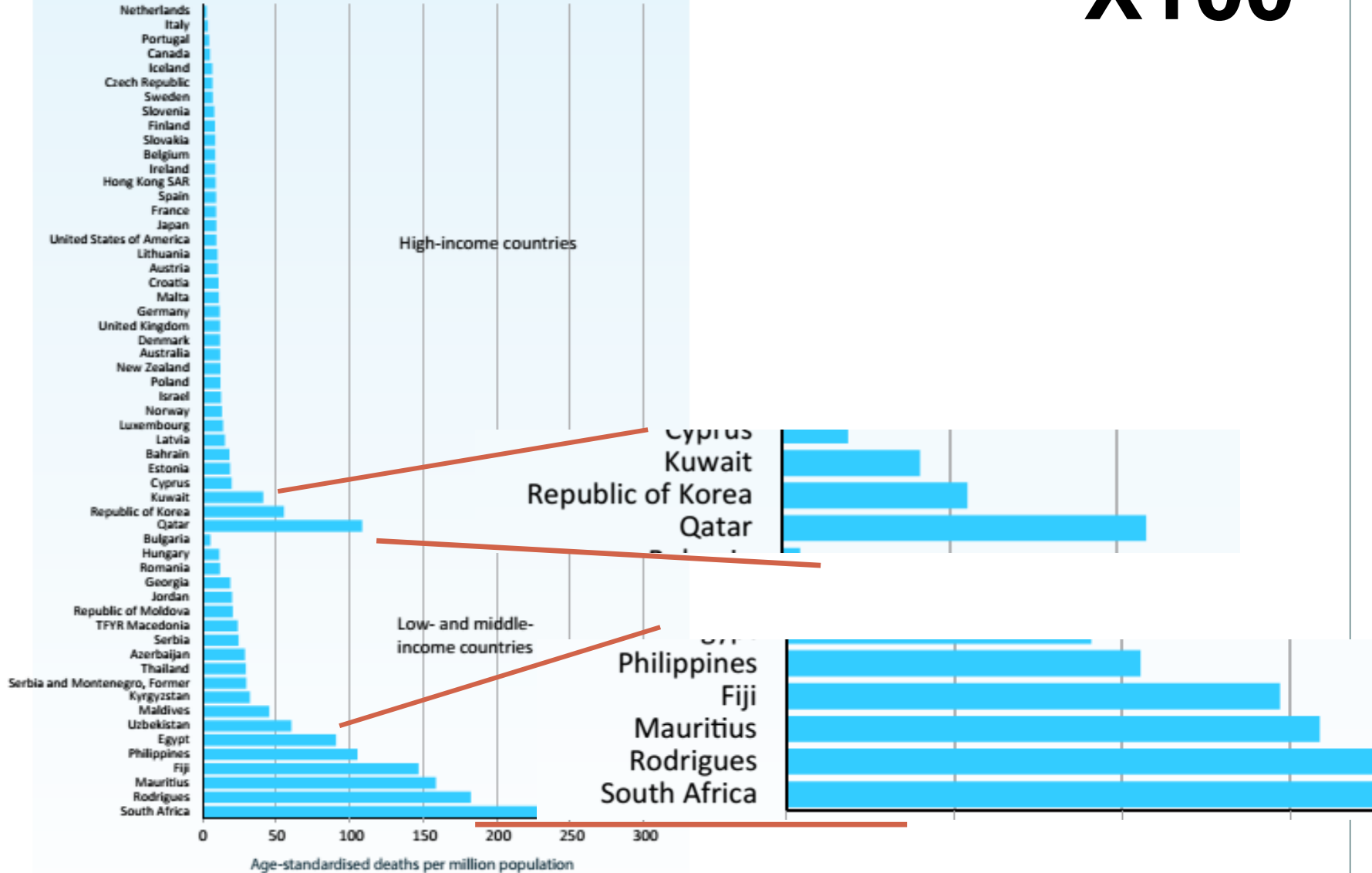
**<1
250 000/year**



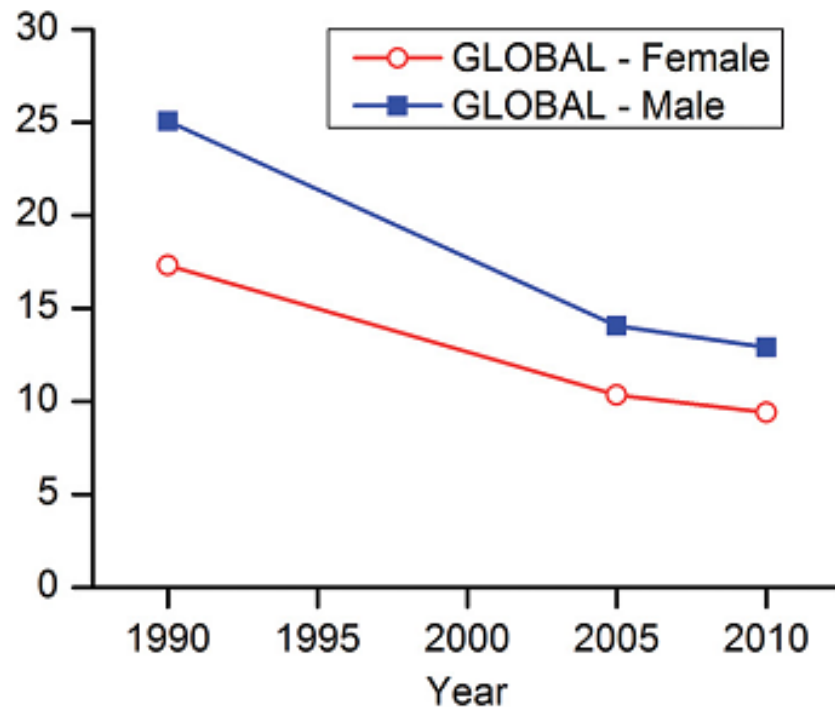
Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010



X100



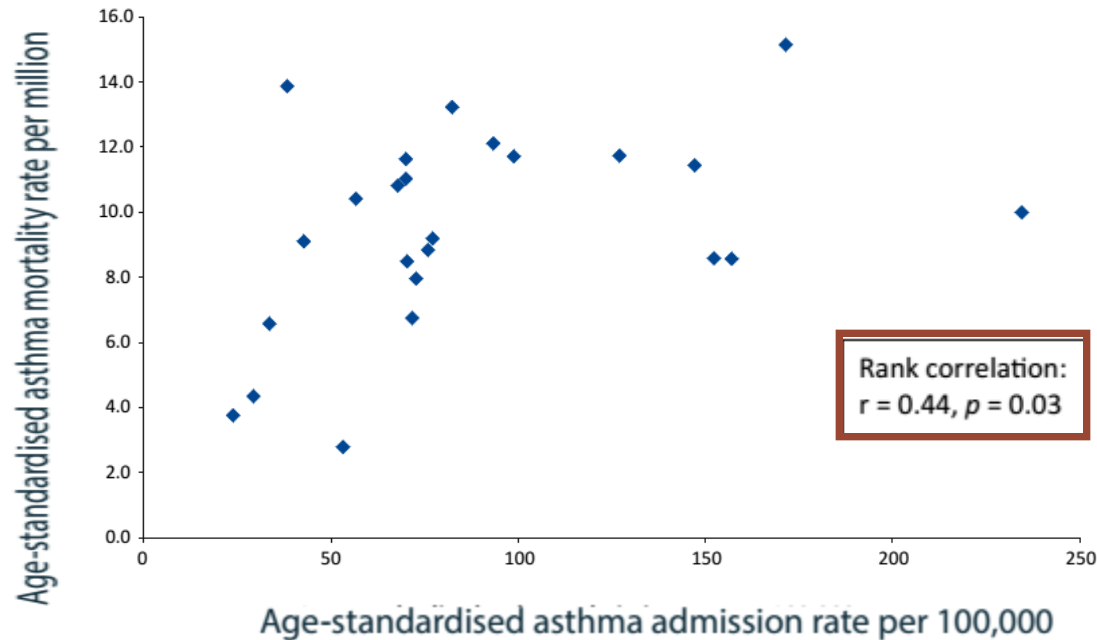
Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010



25/100 000
17/100 000

Global trends in age standardised mortality from asthma by sex.

SEVERE ASTHMA??



Age-standardised asthma mortality rates and age-standardised hospital admission rates for asthma, in European countries providing recent data for both (2001-2010).

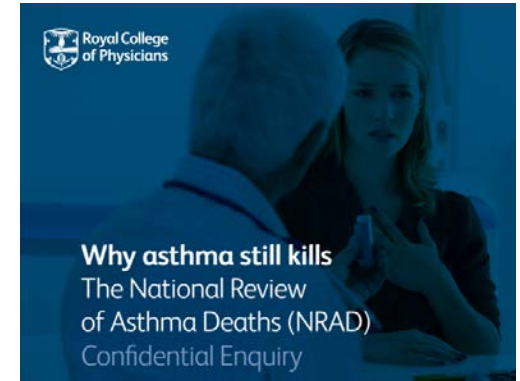


Royal College
of Physicians

Why asthma still kills
The National Review
of Asthma Deaths (NRAD)
Confidential Enquiry

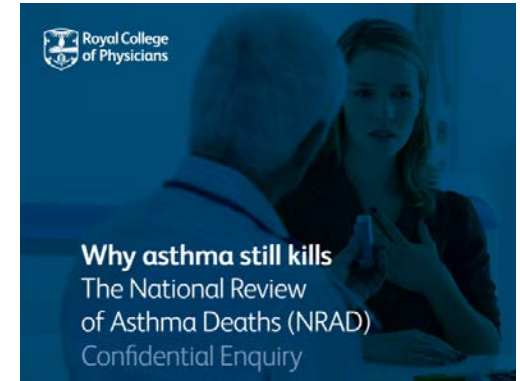
Key findings include the following.

- > During the final, fatal asthma attack, almost half of those who died did so without seeking medical help, or before emergency care could be provided.
- > Around one-fifth of those who died had attended a hospital emergency department for asthma at least once in the previous year. ✓
- > Ten per cent died within 1 month of being discharged from hospital for asthma. ✓
- > Many of those who died were being treated for mild or moderate asthma. Experts concluded that most of these actually had poorly controlled, severe asthma, but neither the patients nor their doctors recognised this. ✓
- > There was widespread over-reliance on reliever inhalers and underuse of preventer inhalers in those who died.
- > Nearly half of those who died had not had an asthma review by their GP or nurse in the previous year.
- > Around one-fifth of those who died were smokers, and this was thought by experts to have aggravated their asthma; others were exposed to second-hand smoke at home.



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DALYs

-  Yeti Yitimsiz Yaşam Umudu (Disability Free Life Expectancy; DFLY)
-  Sağlıklı Yaşam Umudu (Healthy Life Expectancy; HALE)
-  Yeti Yitimine Ayarlanmış Yaşam Yılı (Disability Adjusted Life Years; DALY)
-  Sağlıklı Yaşam Yılı (Healthy Life Year, HeALY)
-  Yeti Yitimine Ayarlanmış Yaşam Umudu (Disability Adjusted Life Expectancy; DALE)
-  Kaliteye Ayarlanmış Yaşam Yılı (Quality Adjusted Life Years; QALY)

Sağlık beklentisi

Her bir bireyin o toplum için belirlenmiş doğuştan beklenen yaşam süresi kadar yaşadığı ve mükemmel sağlığa sahip olduğu ideal durum

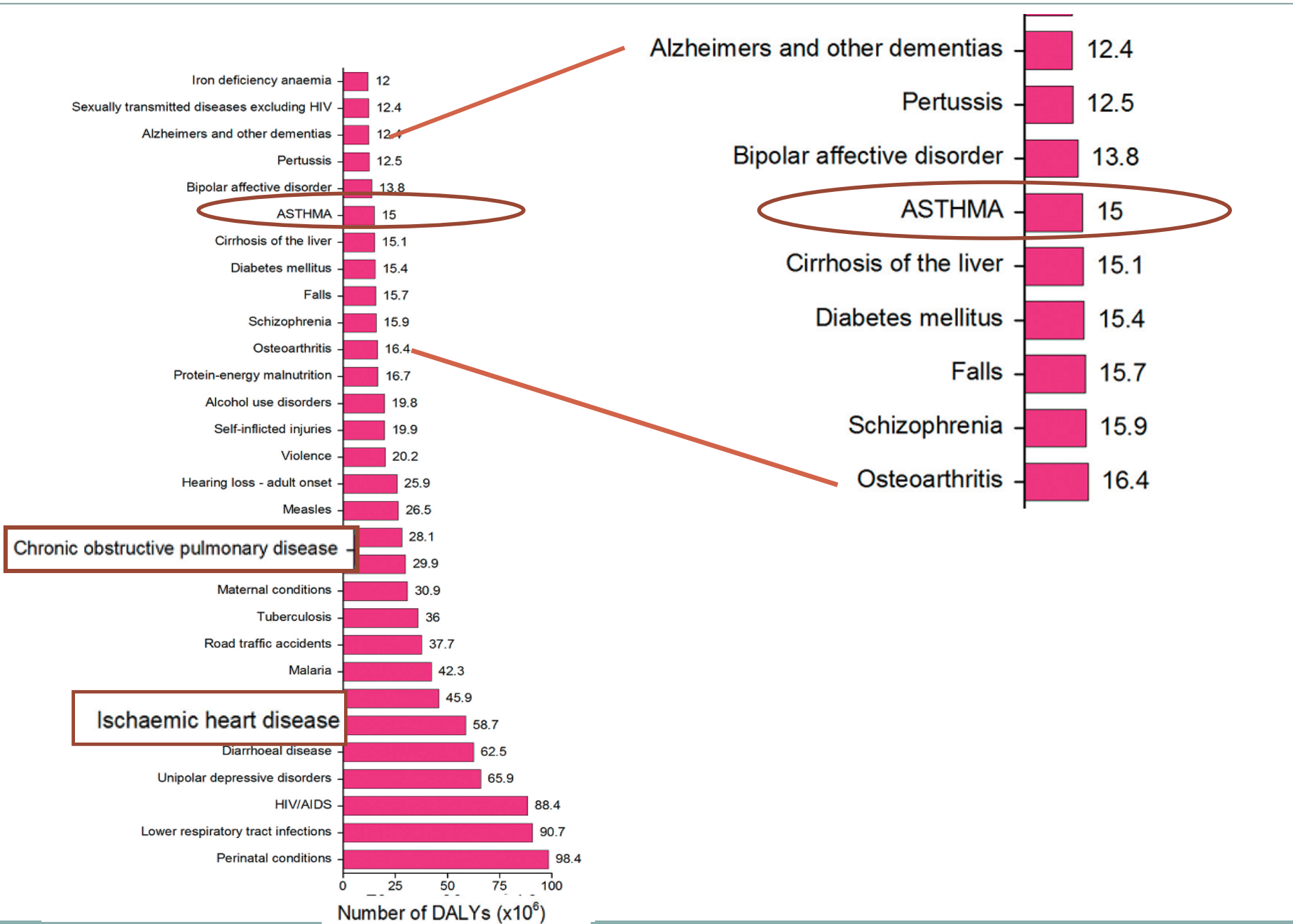
Sağlıkta oluşan açık

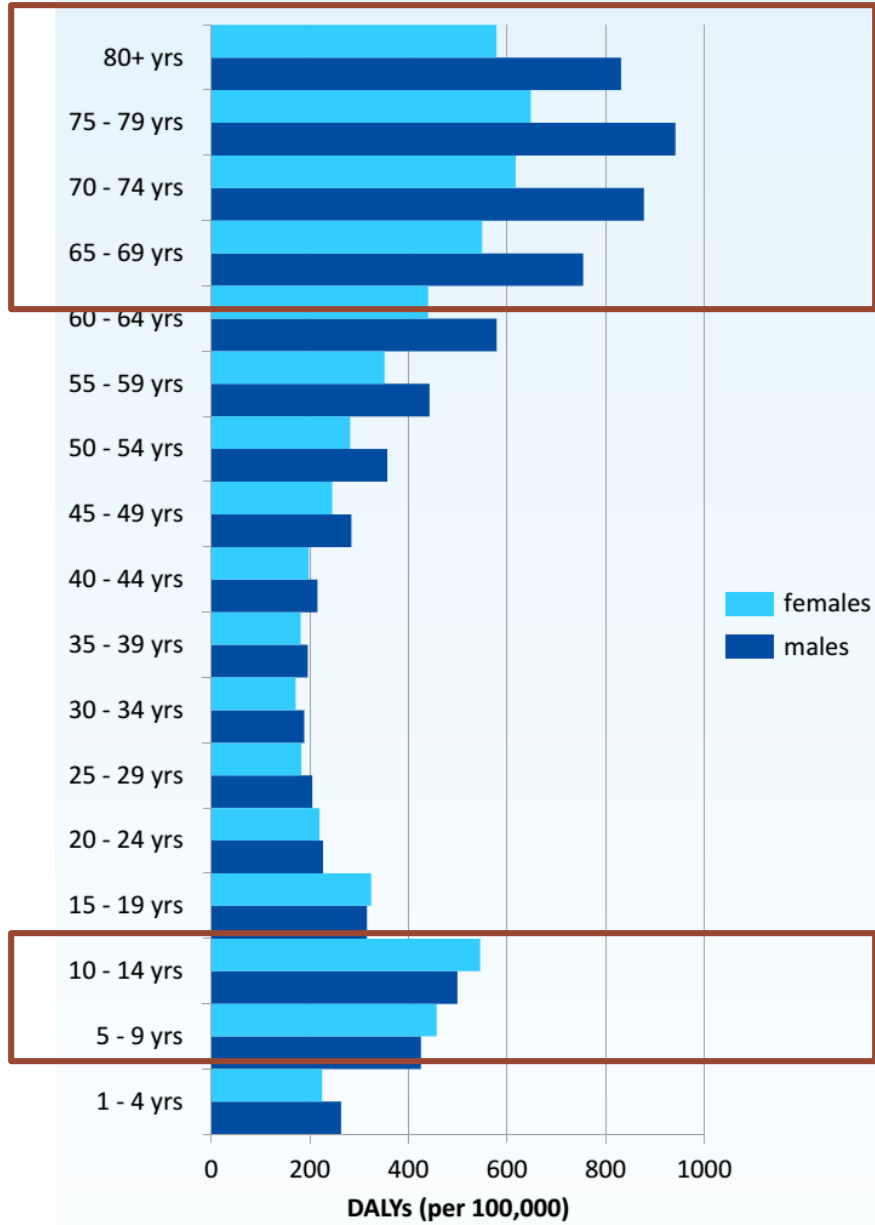
Şu andaki durum

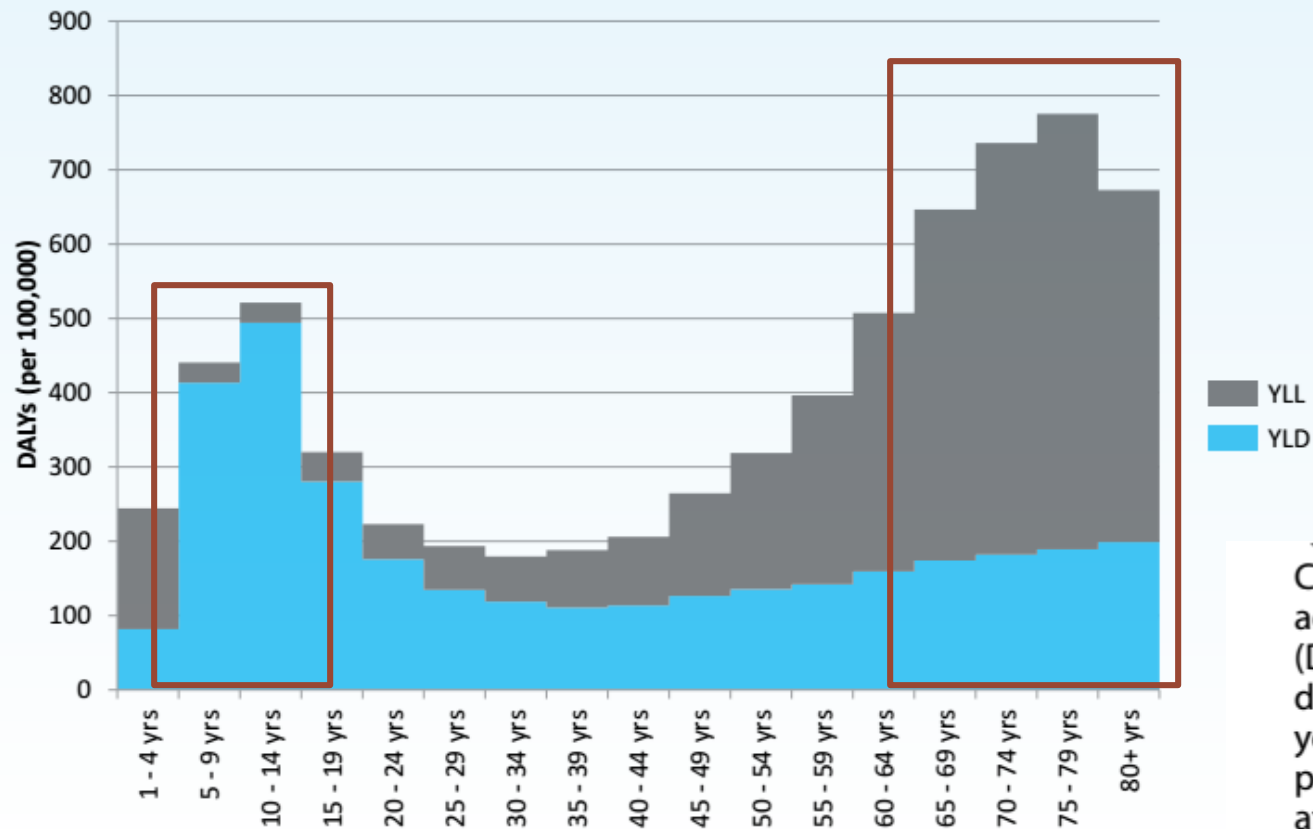
1 DALY = Yaşamdan kaybedilmiş sağlıklı bir yıla karşılık gelmektedir.

DALY

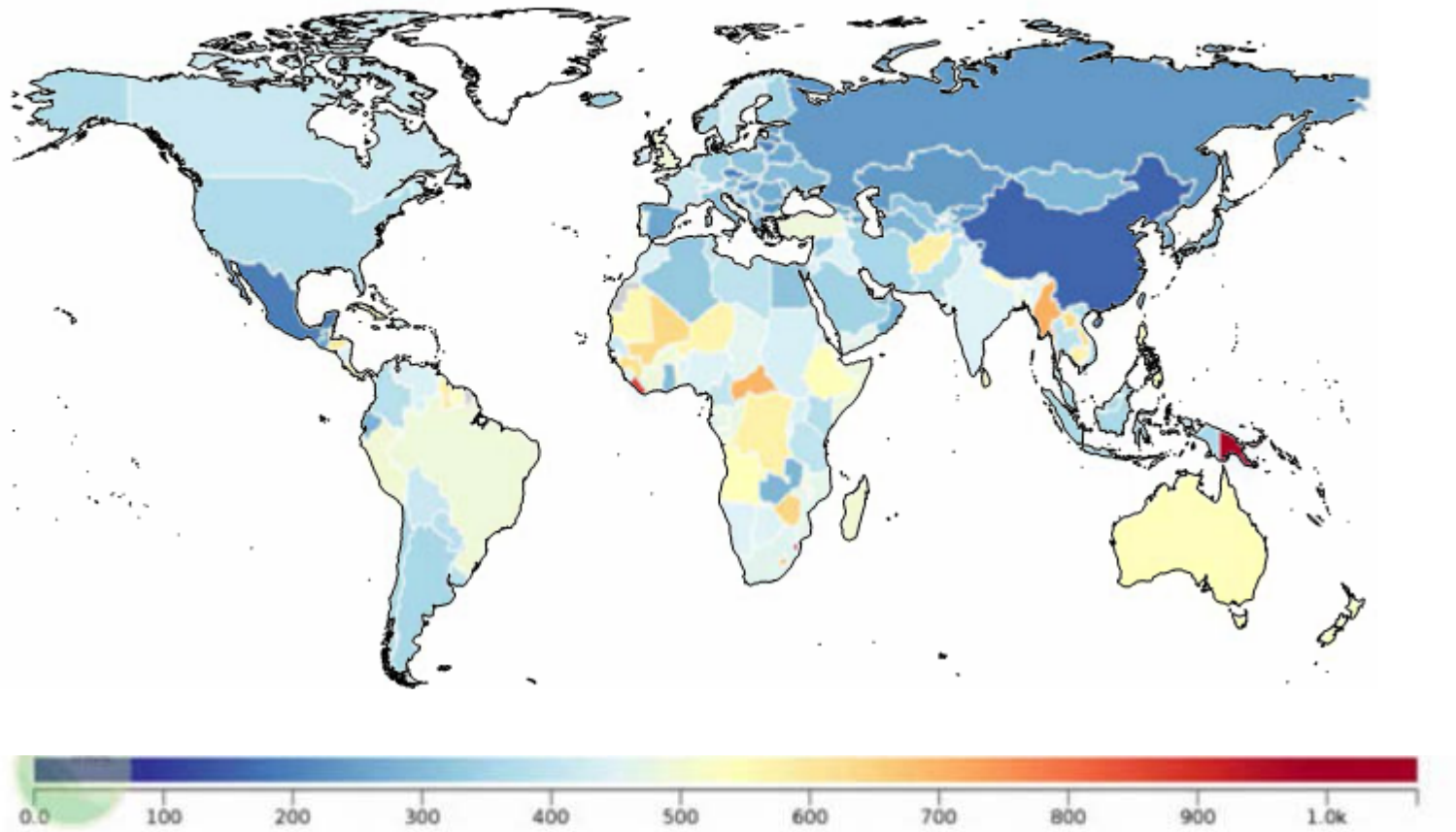
Nüfus düzeyindeki erken ölümlere bağlı kaybedilmiş yıllar (YLL:Years Life Lost)
Yeti yitimi ile geçirilen yılların (YLD: Years Life Disabled)
Toplum düzeyindeki YLL+YLD toplamıdır





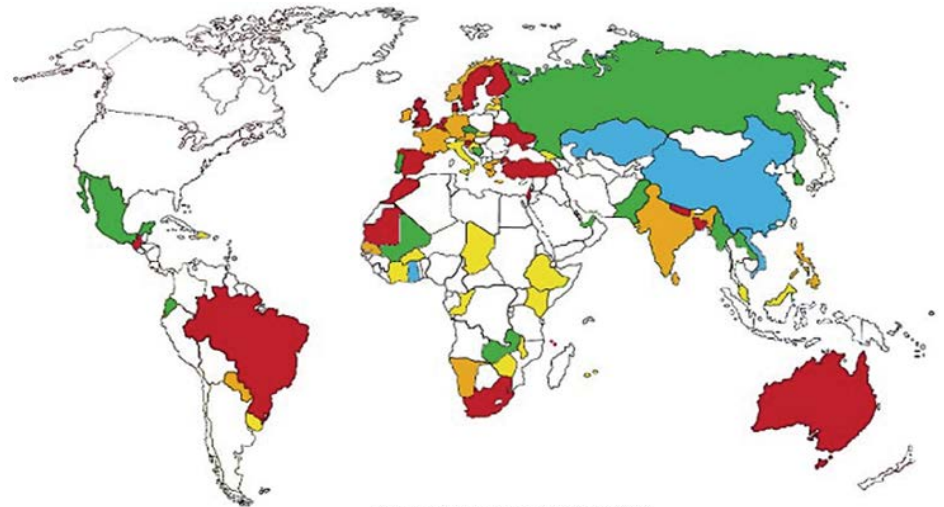
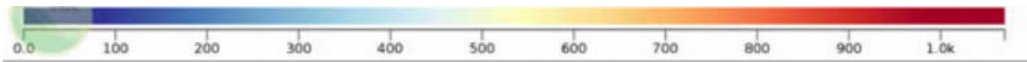
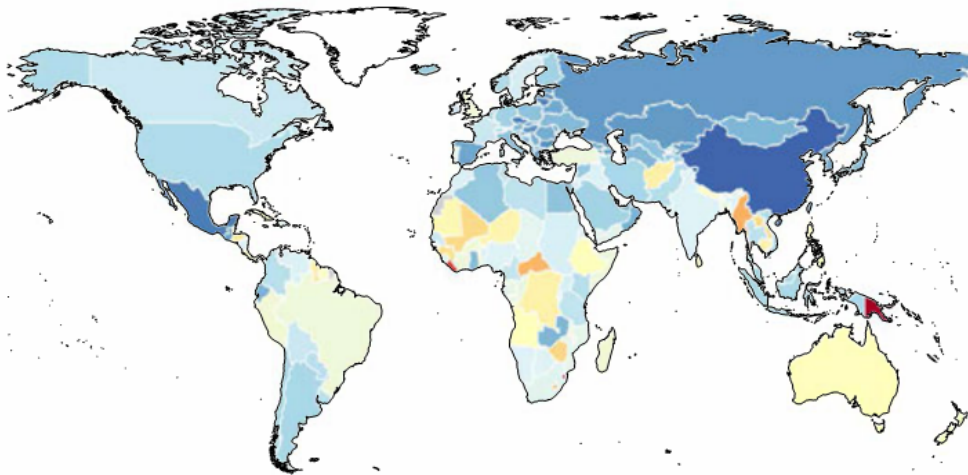


Components of disability adjusted life years (DALYs): years lived with disability (YLD) and years of life lost (YLL) per 100,000 population attributed to asthma by age group. Global population, 2010. (see DALY



Disability adjusted life years (DALYs) per 100,000 population attributed to asthma by country, both sexes, 2010.

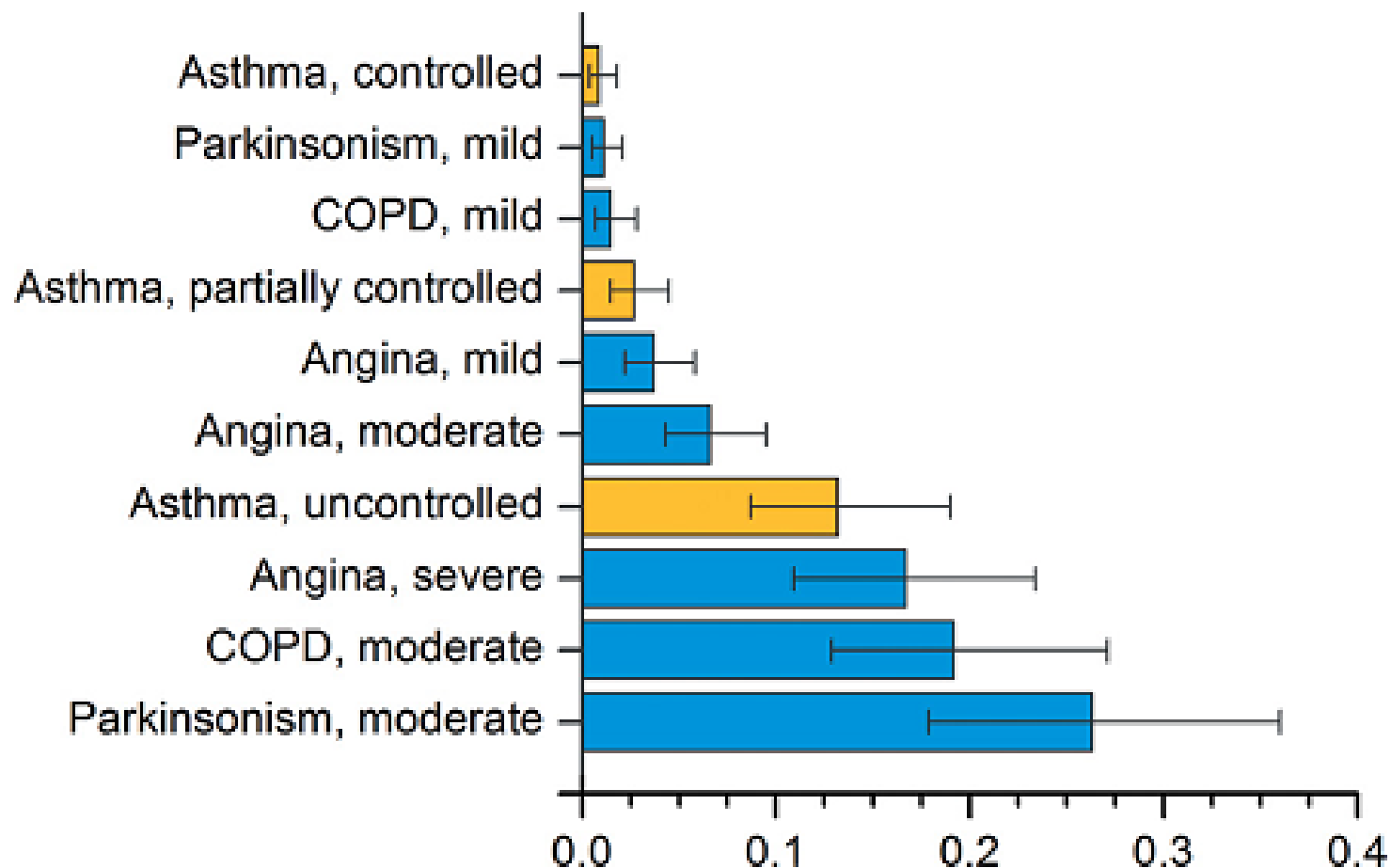
Source: Institute for Health Metrics and Evaluation (IHME).



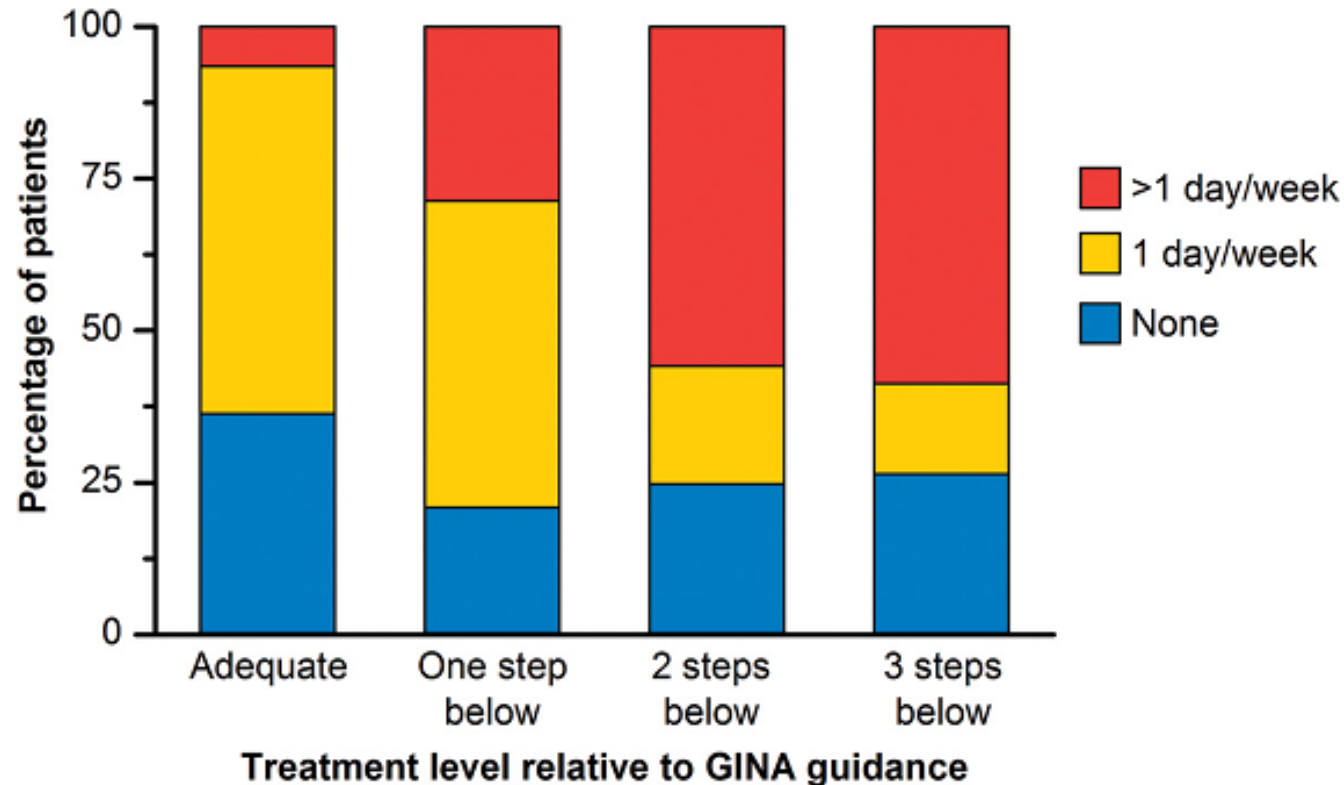
Proportion of population (%)



Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010



A multinational study of treatment failures in asthma management.



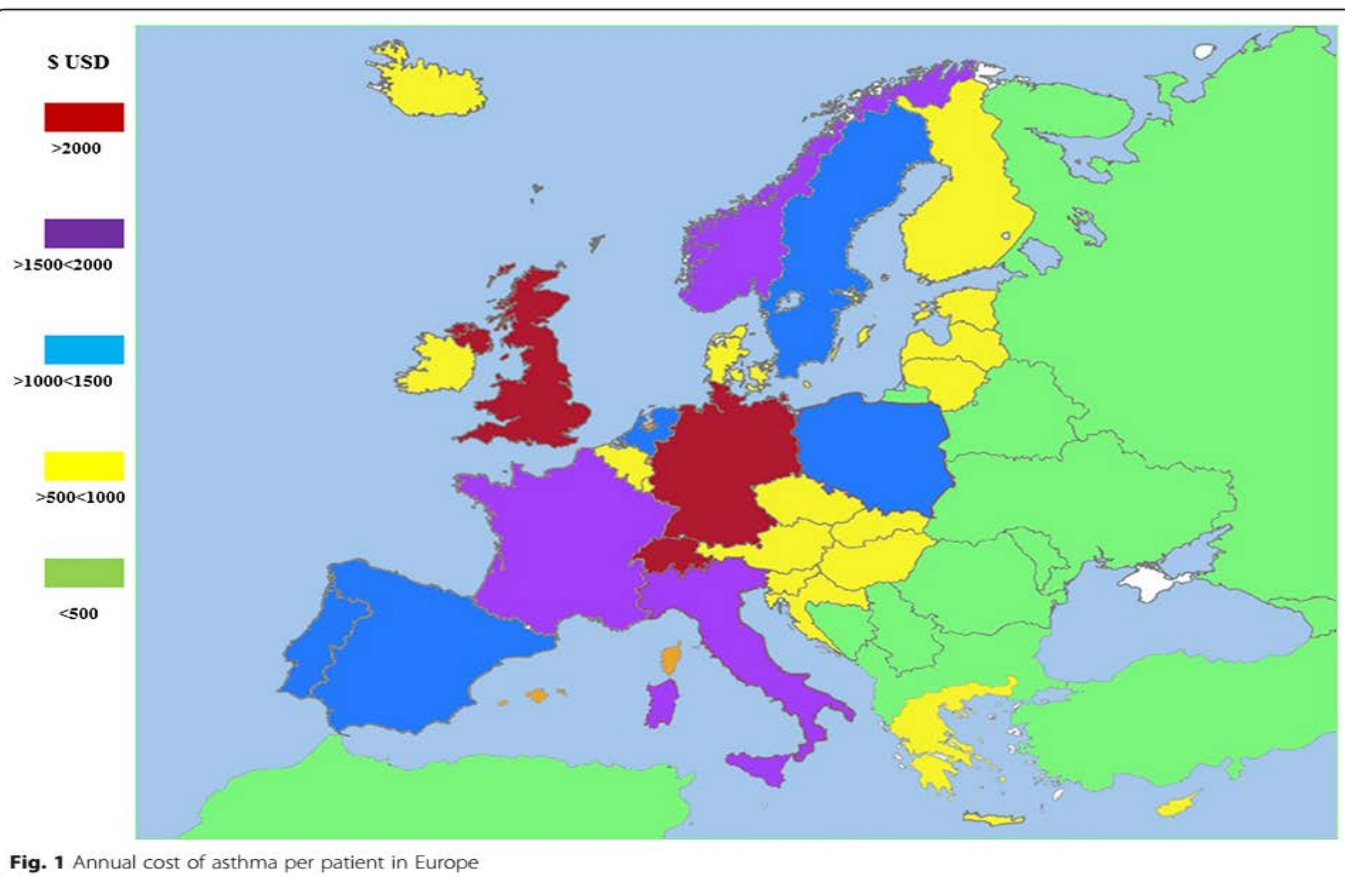
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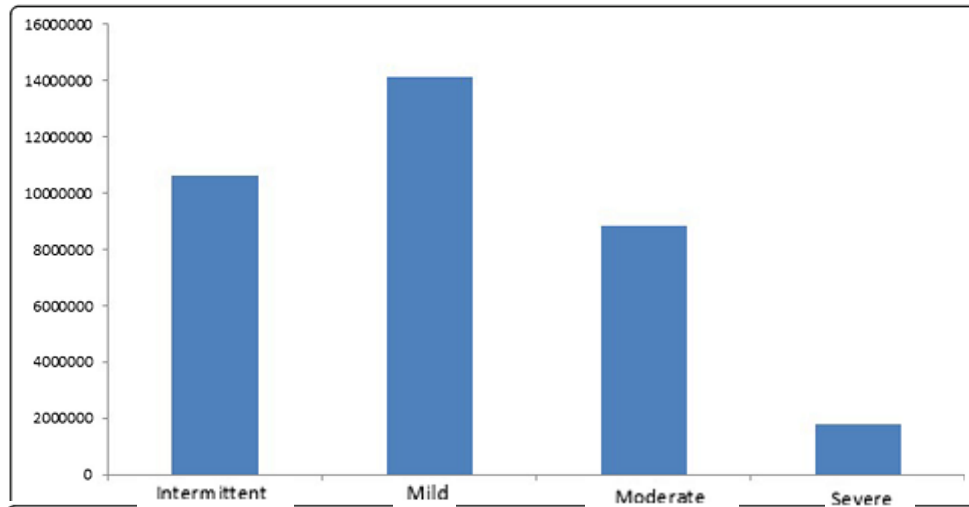
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Asthma costs and social impact

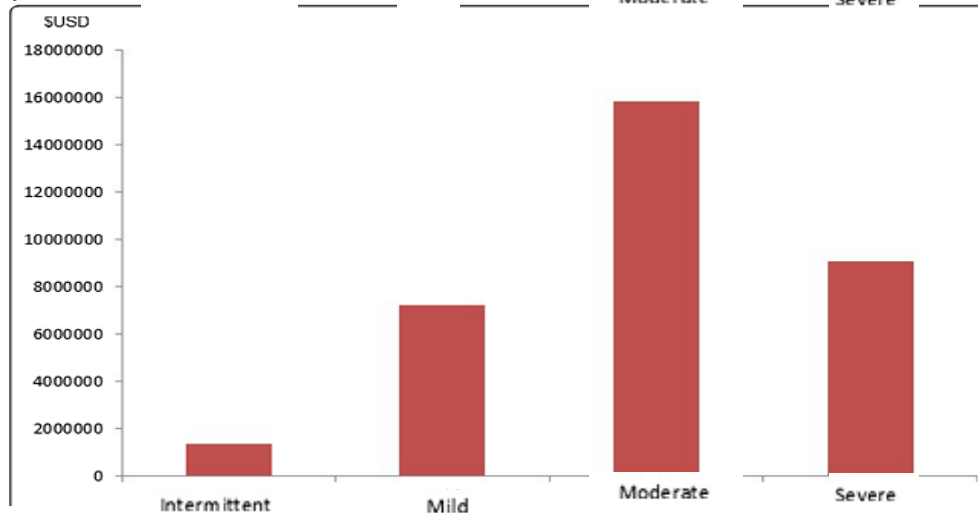
An analysis of the burden of asthma in the US estimated the annual costs per patient at \$ 1907 and the total national medical expenditure at \$ 18 billion. The ERS White book, published in 2003 estimated the total costs of asthma in Europe at approximately € 17.7 billion per annum.



Asthma costs and social impact



**Total asthmatics in Europe
by severity**



**Total cost by severity
in Europe**

Economic burden of asthma

Direct costs

Hospital admissions
Emergency visits
Physician visits
Diagnostics
Medication

Indirect costs

Productivity loss

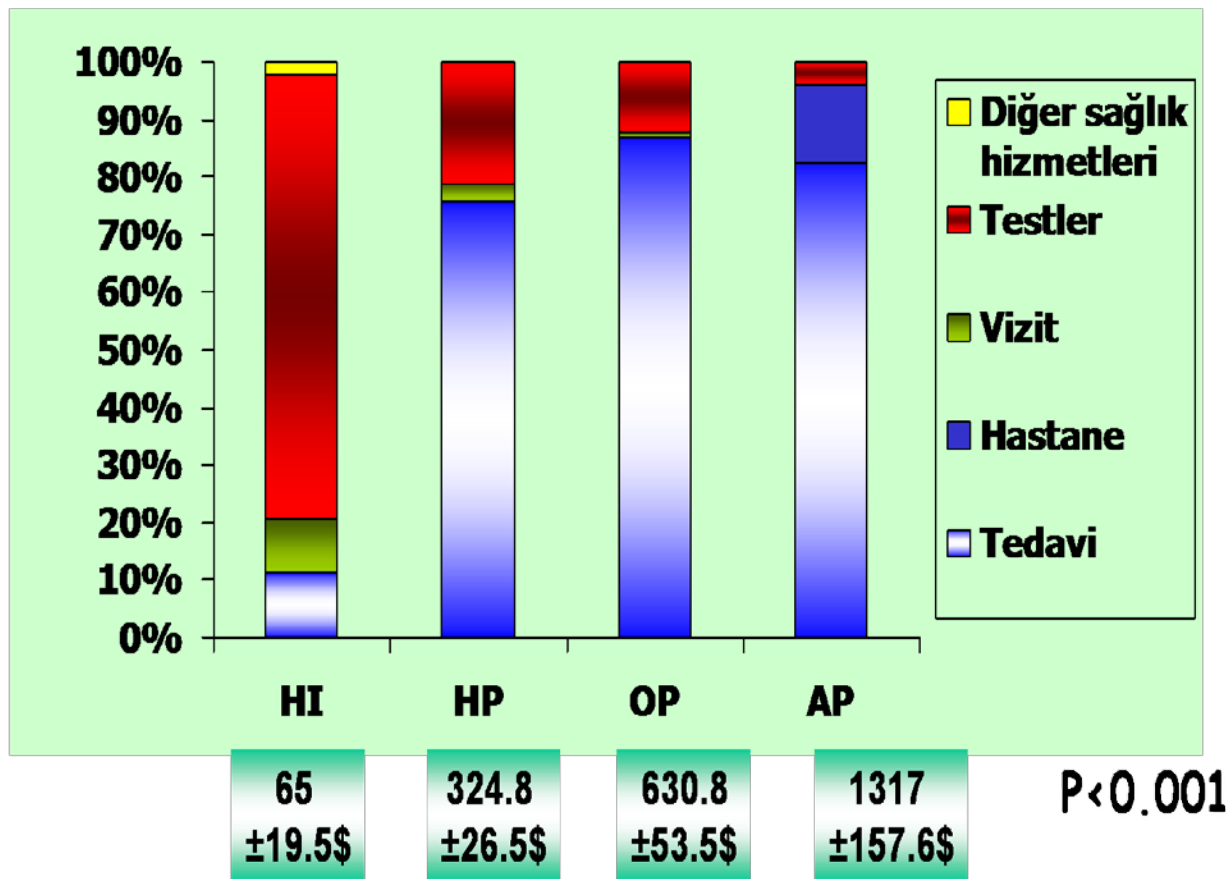
- Absenteeism
- Presenteeism
- Unemployment

School days lost
Travelling (time)
Disability costs

Cost-enhancing factors

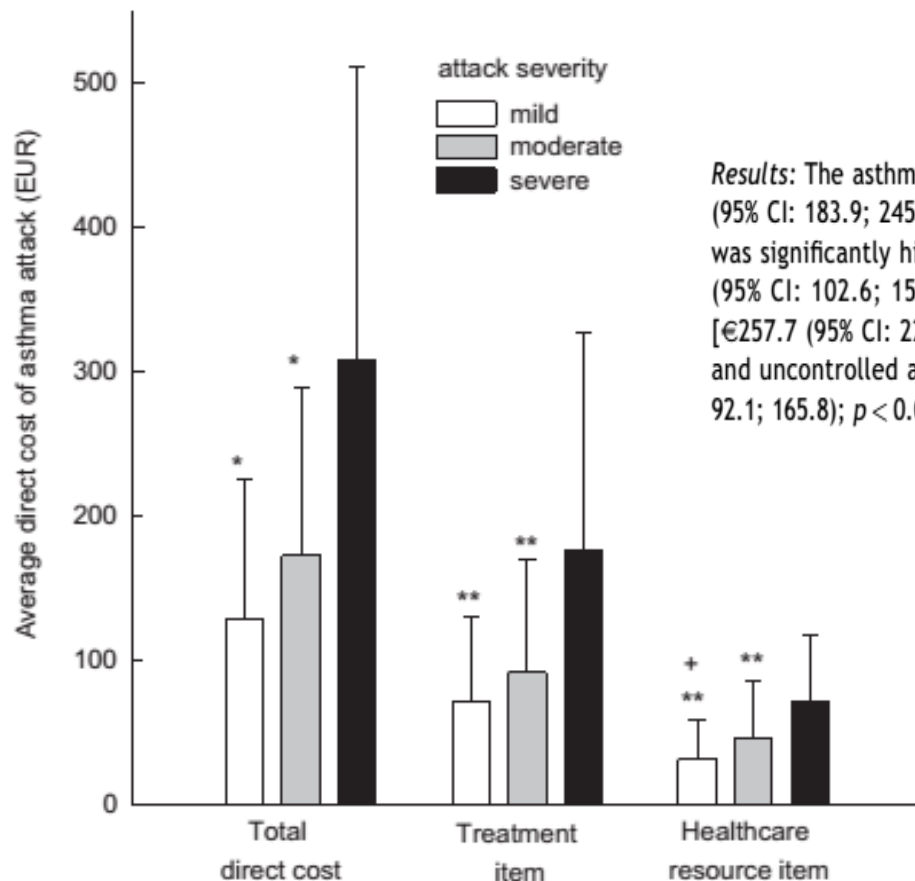
Asthma severity
Poor asthma control
Comorbidity
Disability status

Direct Medical Cost of Asthma in Ankara, Turkey



$P < 0.001$

A cost-of-illness study estimating the direct cost per asthma exacerbation in Turkey



Results: The asthma attack was moderate in 57.5% of the patients. Direct cost was €214.9 (95% CI: 183.9; 245.8) per attack. The cost of severe attack €308.2 (95% CI: 258.2; 358.2) was significantly higher than moderate [€172.6 (95% CI: 155.1; 190.2)] and mild [€128.6 (95% CI: 102.6; 154.7)] attacks. It was also significantly higher for inpatient follow-up [€257.7 (95% CI: 220.4; 295)] vs. outpatient follow-up [€54.5 (95% CI: 47; 62; $p < 0.001$)] and uncontrolled asthma [€288.2 (95% CI: 216.7; 359.6)] vs. controlled [€128.9 (95% CI: 92.1; 165.8); $p < 0.01$] asthma.

Mean ± SD

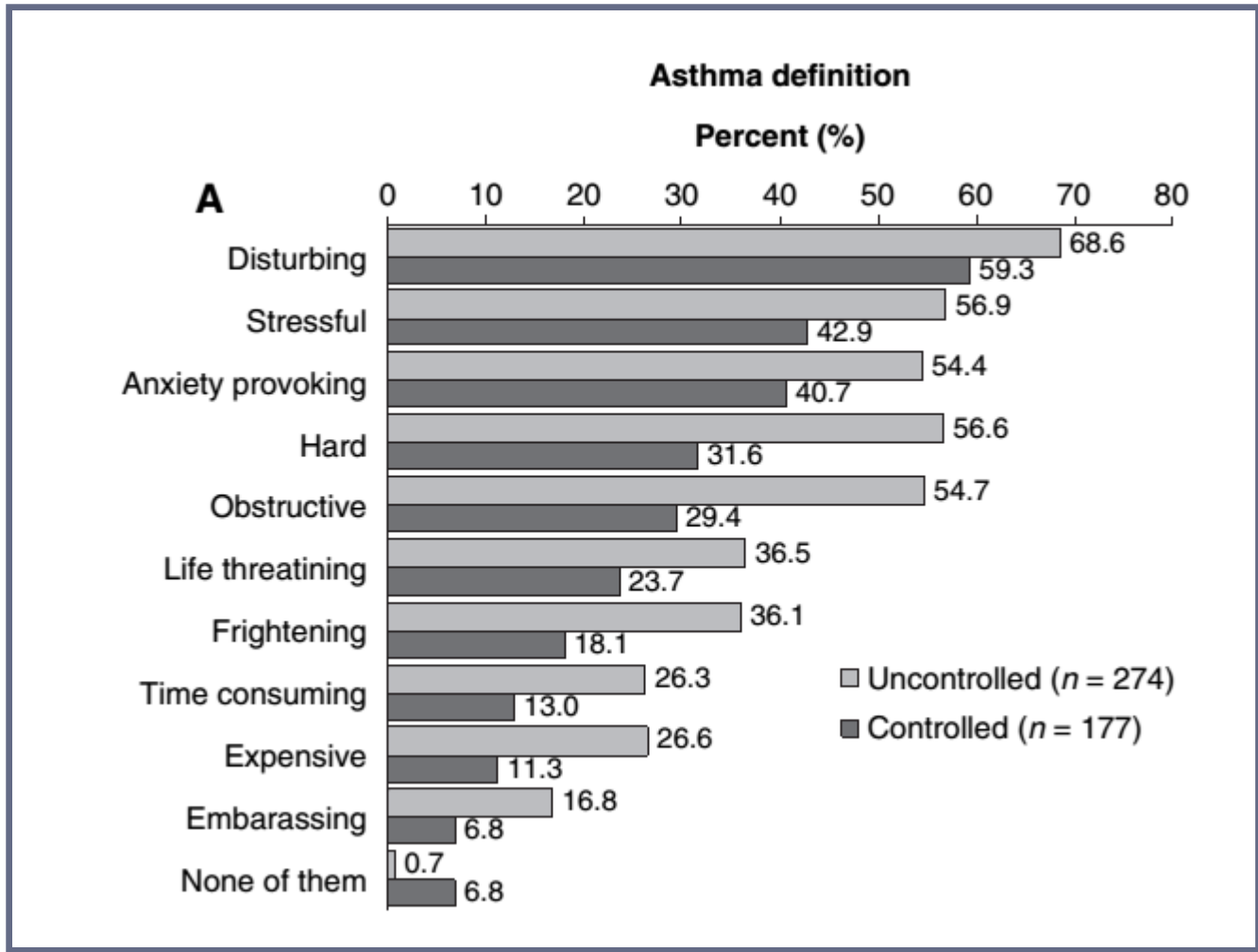
214.85 ± 268.38

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A breath for health: an exploratory study in severe asthma patients in Turkey

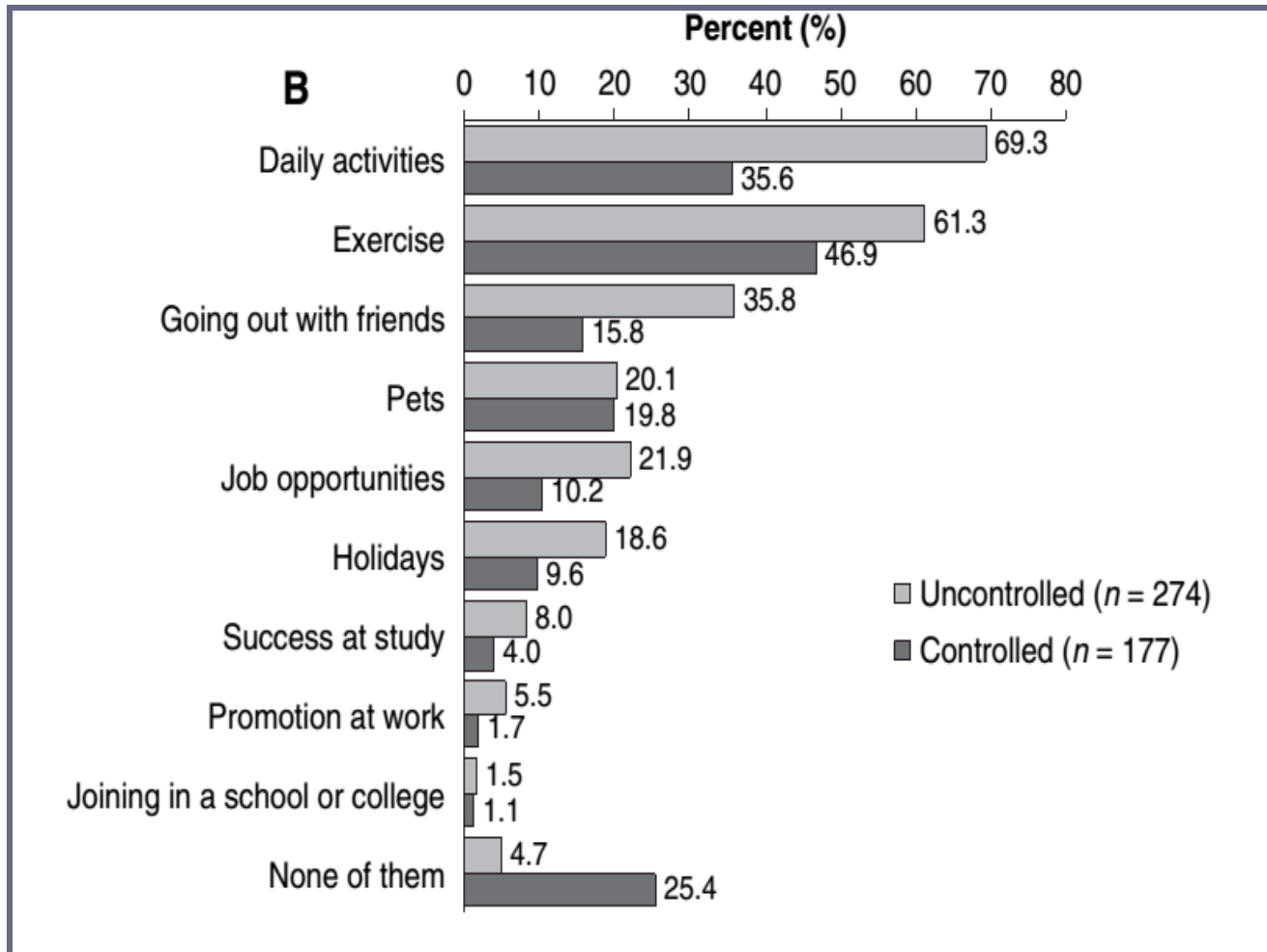


25 study centers

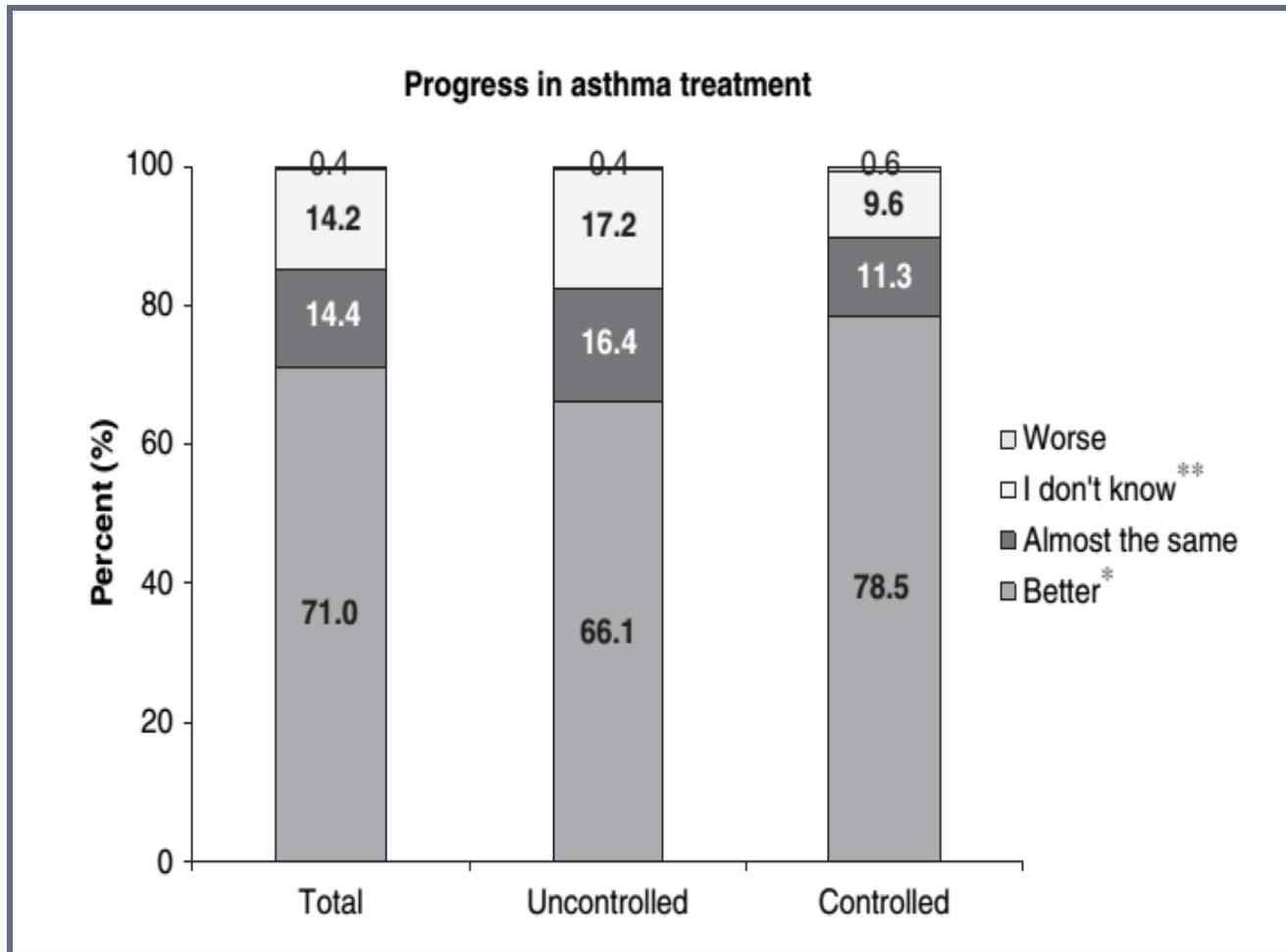
GINA step 4 or 5 treatment

451 patients

A breath for health: an exploratory study in severe asthma patients in Turkey



A breath for health: an exploratory study in severe asthma patients in Turkey



Hic bir sey degil. Astim ~~çok~~ çok zor bir hastalik. ~~Astım~~
~~çok zor bir hastalik. Astım çok zor bir hastalik.~~ Sürandiriyor,
Hareketlerimi, yolculuklarımı her işimi gücümü, ev temizliğimi,
Kısaca yaşamımı etkiliyor. Bununla birlikte içeren ortam olmalı,
Yatağa yorgana çok dikkat etmek lazım çünkü en ufak
bir toz bile rahatsız ediyor. Bu hastalık günlük yaşamımı
çok etkiliyor. Nüksettiği zaman evimi temizlemiyorum.
Eve kocam benden herseyi bekler, bende yardımcı alamadığım
için kendimi zorlayorum iş yaparken bu yüzden bu hastalık
çok nüksediyor. Gamaşır yıkama deterjanından rahatsızlanıyorum.
Gamaşır suyu na telen hiç kullanmıyorum fakat kullanmasam
ne kadar temiz olurum? Astımı yasamak hiç güzel değil.
Nefes almak çok güzel birsey. Krizler geldiği zaman
hiç yaşamın havesini kalmıyo. Hastaneye geldiğimde ilaçları
bana kendime geliyorum fakat kendimi zorlayınca tekrar
hastalanıyorum. Allah doktorlarımıza güç kuvvet versin,
bizlere de şifa ihsan etsin.

Reduction of asthma burden is possible through National Asthma Plans

Finland

Erken tanı
Aktif antiinflamatuvar tedavi
Tedaviye aktif katılım
GP ve eczacılar arasında
etkili iletişim



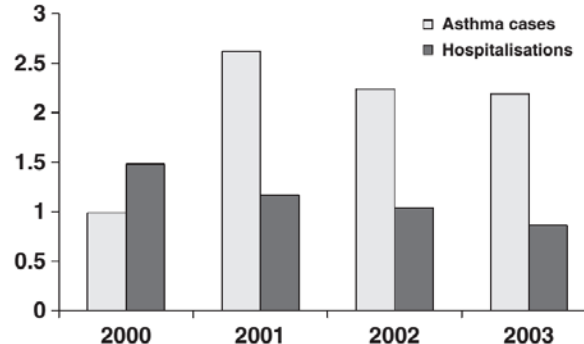
Mortalite, hastane yatışı ve
yeti kaybında azalma
Maliyette %50 azalma

🤔 Poland

Astım prevalansında
hızlı artış
Tanı /Tedavi yetersizliği
SFT kaybı / kontrol prob
Mortalite 5-10/10000/yıl



Erken tanı
Optimal tedavi



🤔 Brazil

Semptom oranı çok yüksek
Tedavi oranı çok düşük
Ciddi maliyet/mortalite



Erken tanı
Optimal tedavi



1 yıl içinde;
kontrolde %50 artış
Yaşam kalit. %74 artış
Maliyette %50 azalma

Burden of disease associated with asthma among the adult general population of five Middle Eastern countries: Results of the SNAPSHOT program

Conclusion: Uncontrolled asthma imposes a significant burden in these Middle Eastern countries resulting in increased frequency of healthcare use, lower quality of life, and a higher impact on daily life compared to controlled asthma.

