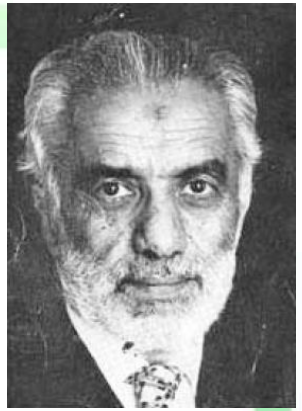
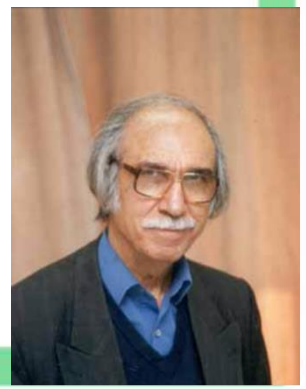
"هوالحکیم العلیم"

یاد و خاطره استادان گرامی باد

بنیانگذاران
طب کودکان
آلرژی و ایمونولوژی بالینی



الگوهای
دانش ورزی ، اخلاق مداری و نوع دوستی



مرکز تحقیقات ایمونولوژی، آسم و آلرژی

The Burden and Social Determinants of **Asthma** Management

انجمن آسم و آلرژی ایران (۱۳۷۵)
IRANIAN SOCIETY OF ASTHMA & ALLERGY (ISAA)

Mostafa Moin M.D.

Professor of Allergy
and
Clinical Immunology

Iranian Sciety for asthma and Allergy
President

WORLD ASTHMA DAY 2022

CLOSING GAPS IN ASTHMA CARE
World Asthma Day · May 3, 2022

World Asthma Day
(1401 - 2022 : 25th)

مرکز تحقیقات ایمونولوژی، آسم و آلرژی

The Burden and Social Determinants of **Asthma** Management

روز جهانی آسم- ۱۴۰۱

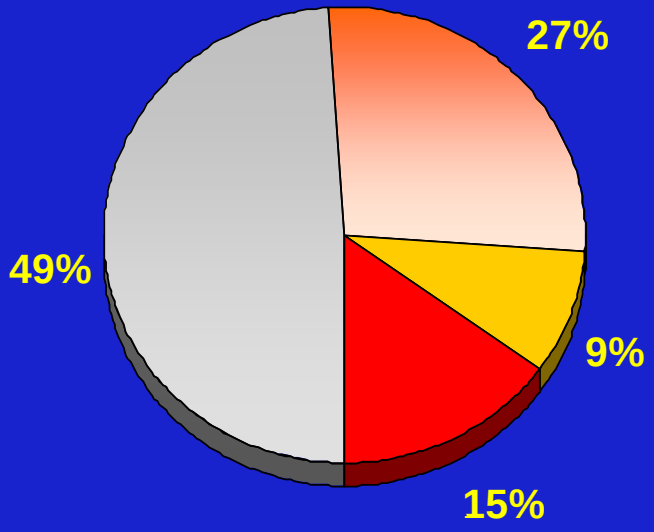
انجمن آسم و آلرژی ایران (۱۳۷۵)
IRANIAN SOCIETY OF ASTHMA & ALLERGY (ISAA)

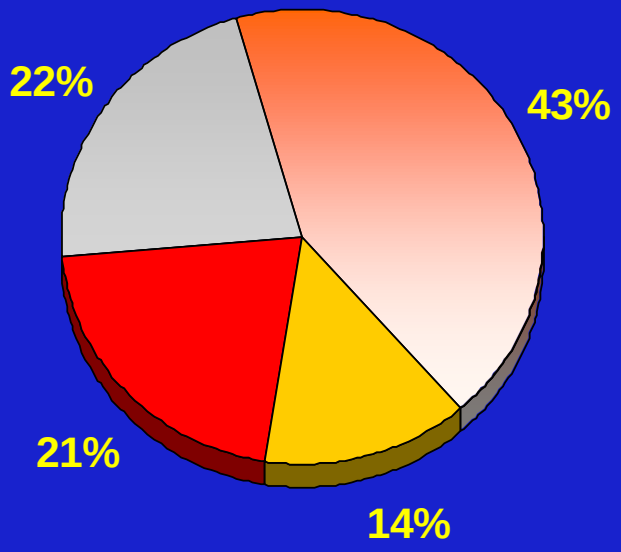
۲۵

World Asthma Day (2022 : 25th)

Global Increasing Prevalence of Noncommunicable Conditions – NCD

Global burden of disease 1990 - 2020 by disease group in developing countries





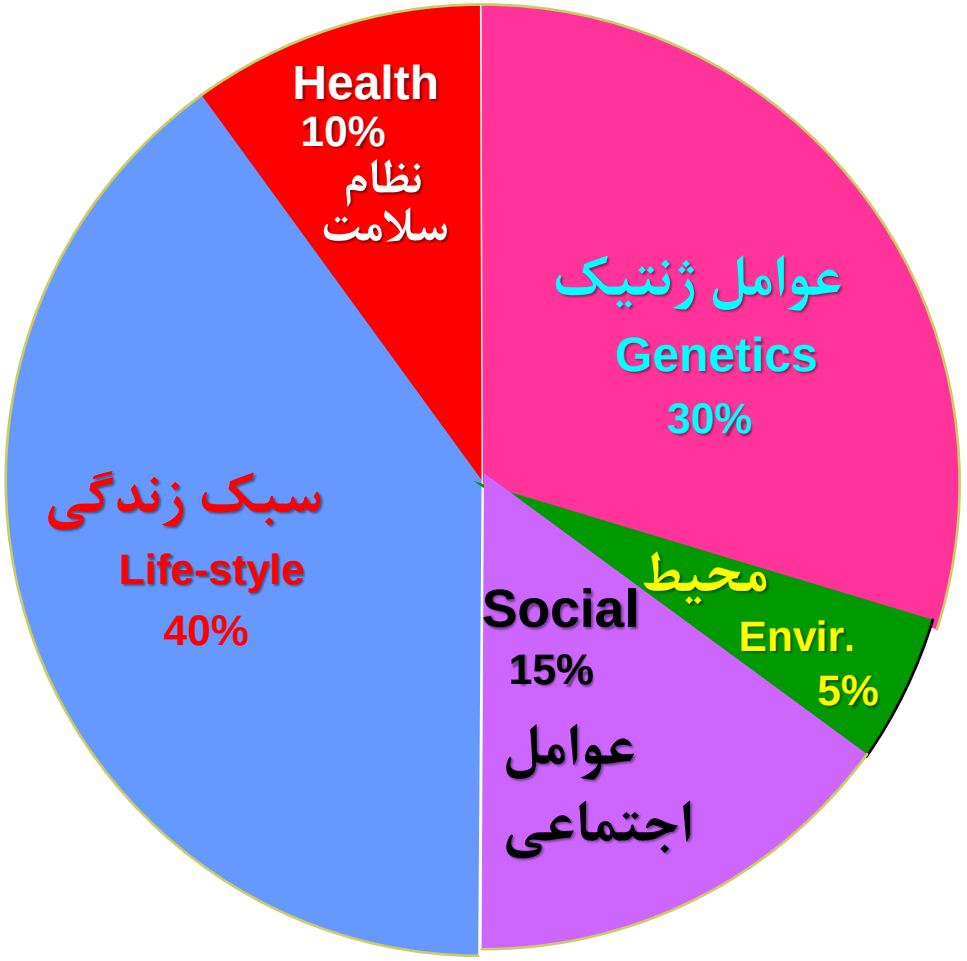
Communicable diseases, maternal and perinatal conditions and nutritional deficiencies

Noncommunicable Conditions - NCD

Neuropsychiatric Disorders

Neuropsychiatric Disorders

Social Determinants of Health - SDH



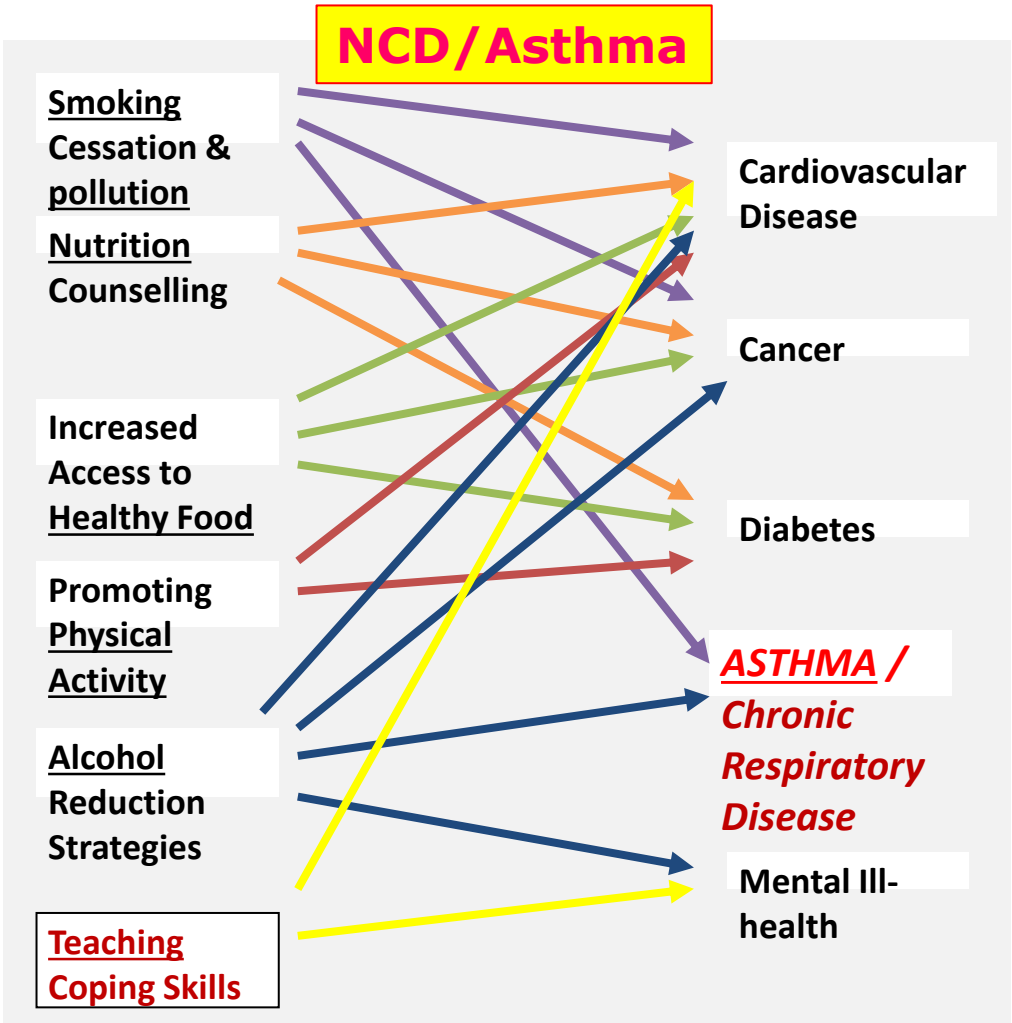
NCD

- ✓ Cardiovascular
- ✓ Cancers
- ✓ Diabetes
- ✓ ASTHMA / Chronic Respiratory Diseases

%55 Life-style & Social Factors – The Role of Education!

Social Determinants of Health - SDH

Commonality of Risk Factors



Social Determinants of Health/Asthma SDH-SDA

NCD/Asthma Challenges

- High prevalence of risk factors
- Urbanization & Pollution;
- Globalization (eg. food market globalization);
- Poor lifestyle practices;
- Poverty;
- Rapidly aging populations;
- Weak health systems;
- A lack of political will!!

The Burden and Social Determinants of **Asthma** Management

THE GLOBAL BURDEN OF ASTHMA

- 358 million people have asthma.
- 14% of the world's children experience asthma symptoms.
- 8.6% of adults (aged 18-45) experience asthma symptoms.
- The burden of asthma is greatest for children aged 10-14 and the elderly aged 75-79.
- *Globally, asthma is ranked 16th of DALY's and 28th of burden.*

%55 Life-style & Social Factors – The Role of Education!

The Burden and Social Determinants of **Asthma** Management

- **Asthma** affect the most economically productive age!

- **Morbidity**/**mortality**/prevalence has increased steadily over the last decades!

More than 50% of Asthmatics not Well-controlled Globally!

Partly controlled/ Non-controlled Asthma- Reasons?

- ✓ Diagnosis?
- ✓ Dose of controllers?
- ✓ Adherance?
- ✓ Inhaler technique?
- ✓ Co-morbids?
- ✓ **Psychosocial factors?**

The Burden and Social Determinants of Asthma Management

- **Social-Fmilial-Physical-Economic-Status Determinants: {Social justice}**
  - Income & income inequality **(Poverty!)**
  - Education
  - Race/ethnicity/gender & related **Discrimination!**
  - Built Environment
  - Stress
  - Social support
  - Early child experiences
  - Employment
  - Housing
  - Transportation
  - Food Environment
  - Social standing

The Burden and Social Determinants of Asthma Management

Poverty

- Asthma prevalence is higher among the urban wealthy!
- But poor communities with a 'double jeopardy' of **Severe Asthma** and **infectious diseases**
- Environmental pollution
- Poor living conditions
- Under-nutrition and malnutrition:maternal mal-nutrition, low birth weight, child malnutrition...
- **Psychosocial stresses** → **poor lifestyle**(smoking , alcohol)
- **Poor access to healthcare**/chronic disease poverty spiral

The Burden and Social Determinants of Asthma Management

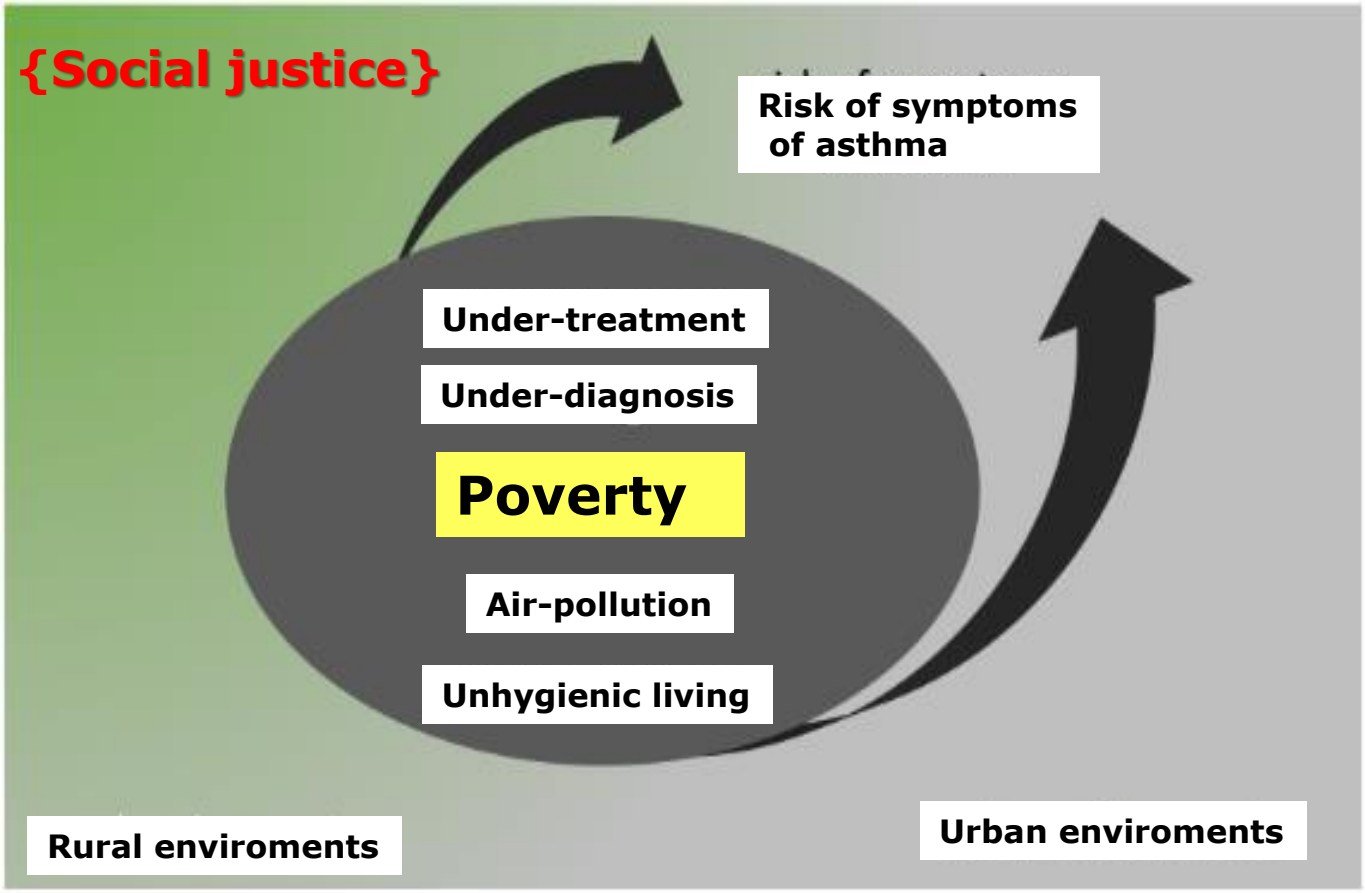


Figure 3 Factors related to poverty that may increase the risk of symptoms of asthma regardless of the type of environment, although living in urban environments is a risk factor for asthma.

The Burden and Social Determinants of Asthma Management

{Social justice}

- **Poverty spiral:**

"**Chronic diseases**(Asthma)can cause:

- **poverty** in individuals and families,

- and a downward spiral of:

worsening disease/poverty"

(WHO, 2005)

The Burden and Social Determinants of Asthma Management

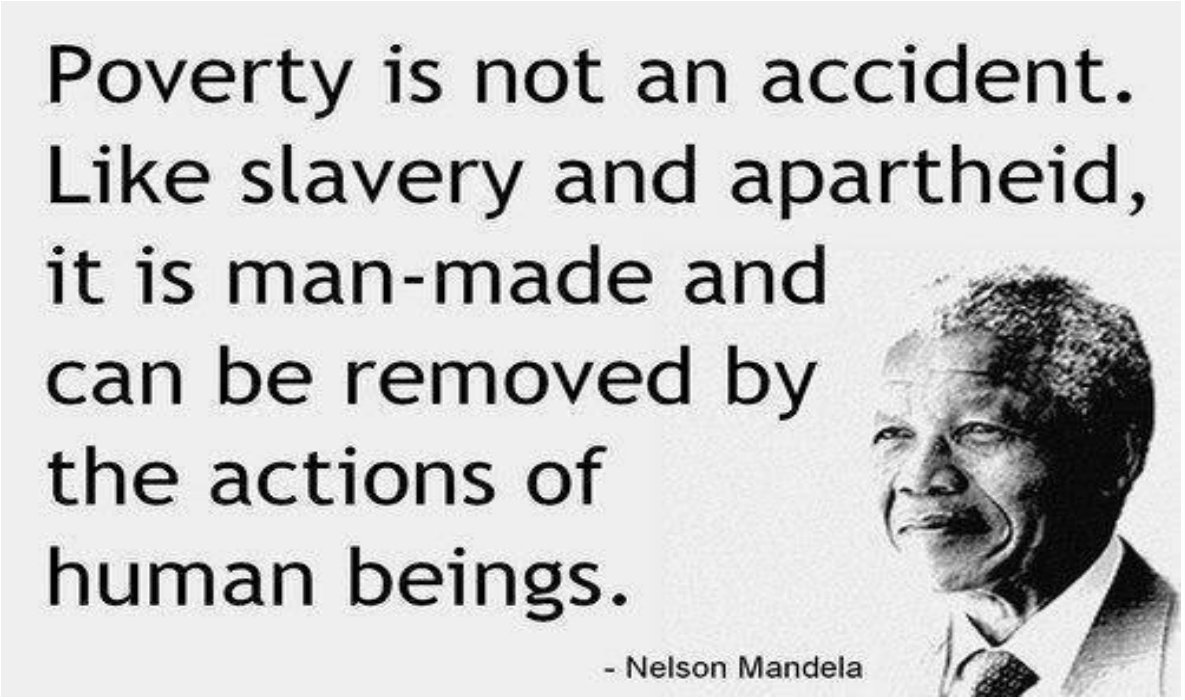
Social justice!

Poverty /

Discrimination

The Burden and Social Determinants of Asthma Management

Poverty!



The Burden and Social Determinants of Asthma Management

"**Social justice / Poverty!**
Is a matter of life or death. It affects the way people live, the likelihood of being unhealthy and to die Prematurely!"

However, effective health policies and practices can mitigate the consequences of social inequalities!

It is time to change the way asthma is handled in LMICs!

Inaction is not an option!

"You may say that I'm a dreamer, but I'm not the only one!"

Social justice

(John Lennon)
Che Guevera

The Burden and Social Determinants of Asthma Management

Lifestyle:

Seven risk factors, in isolation or in combination, are implicated in the major chronic diseases:

1-poor diets (low in fruit and vegetables and high in saturated fats and salt),
2-physical inactivity,
3-obesity,
4-high blood pressure,
5-cigarette smoking and
6-alcohol consumption
7-Psychosocial stress

R.Factors: individual←→ socio-cultural ←→ structural

The Burden and Social Determinants of Asthma Management

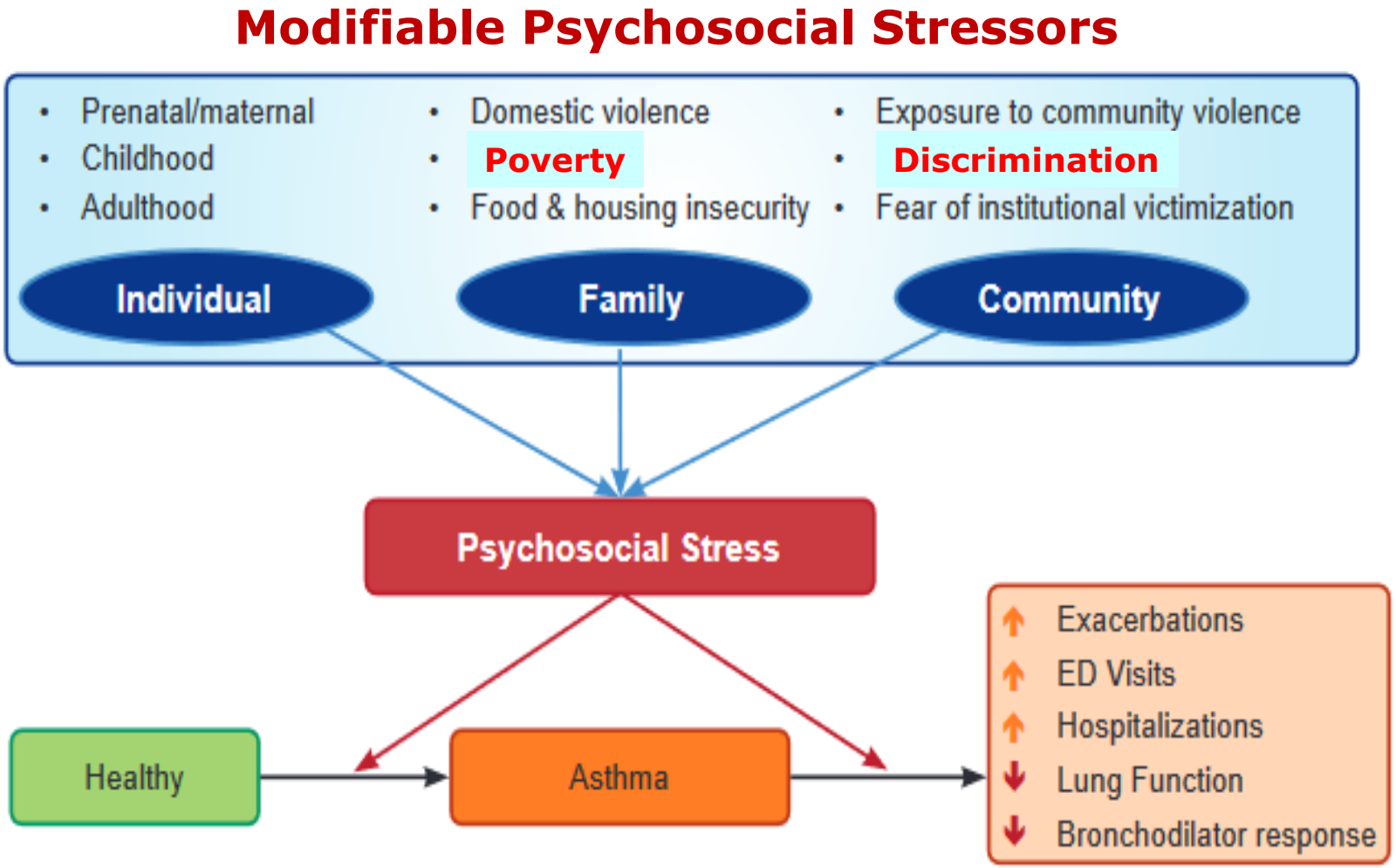


Figure 3 Conceptual diagram of the impact of psychosocial stressors on asthma etiology.

The Burden and Social Determinants of **Asthma** Management

Policy: Recommendations

Three main approach for chronic diseases/Asthma:

- Epidemiological surveillance
- Primary prevention
- Secondary prevention (preventing complications)

Unwin et al, 2001
Epping-Jordan et al, 2005; Suhrcke et al, 2006; WHO, 2005

The Burden and Social Determinants of Asthma Management

مرکز تحقیقات ایمونولوژی، آسم و آلرژی

The First National Population-based Asthma Survey in Iran (Children & Adults)

- The total prevalence of **Ped.asthma** was **10.9%** higher in **13- to 14-year-olds**, **males,** and **urbans** compared to **rural** residents
- The prevalence of **severe asthma** was 3.9% more in **higher age** groups and **males**
- A significant relationship between **asthma** and **passive smoking**

MOIN M, Fazlollahi MR et al,Clin Respir J. 2019 Jan;13(1):1422.

The Burden and Social Determinants of Asthma Management

مرکز تحقیقات ایمونولوژی، آسم و آلرژی

The First National Population-based Asthma Survey in Iran (Children & Adults)

- The prevalence of **Adult asthma** was **8.9%**
- The prevalence more in **males,** no significant relationship between gender and Asthma
- The prevalence higher in **olders** and with **low educational level!**
- There was no significant relationship between asthma and **area of residency!**

Moin M, Fazlollahi MR et al., Clin Respir J. 2017;1–10. 10.1111/crj.12750

The National prevalence of Asthma Symptoms, Allergic rhinitis and Smoking status

TABLE 1 The prevalence of asthma symptoms, allergic rhinitis and smoking status

Asthma symptoms, AR, smoking status	Total (n = 24 344)		Geder: Female		Male		
	N	Prevalence	*N*	Prevalence	*N*	Prevalence	*P* value
Wheezing	3465	14.2	1444	12	2004	16.5	< .001
Wheezing with dyspnea (asthma)	2156	8.9	1000	8.3	1143	9.4	.002
Wheezing in the absence of a cold	2160	8.9	925	7.6	1222	10.1	043.
Chest tightness	2760	11.3	1351	11.2	1395	11.5	43.
Nocturnal dyspnea	2156	8.9	1076	8.9	1068	8.8	.80
Nocturnal cough	3234	13.3	1624	13.4	1592	13.1	.48
Asthma attack	796	3.3	417	3.5	370	3.1	.08
asthma	871	3.6	467	3.9	399	3.3	.017
Physician-diagnosed asthma	893	3.7	473	3.9	414	3.4	.02
Current asthma	1155	4.7	615	5.1	530	4.4	.009
Hx of AR- 21.1%	5139	21.1	2754	22.9	2369	19.6	< .001
Passive	6510	26.7	3280	27.1	3205	26.4	.22
Active smoking- 12.6%	3066	12.6	287	2.4%	2769	22.9%	< .001

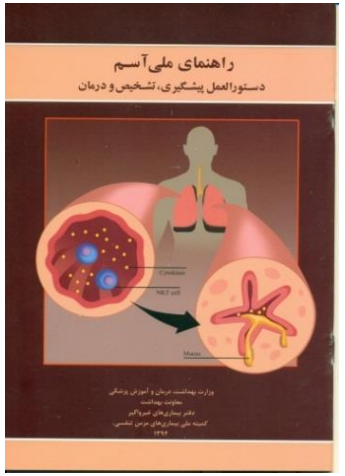
مرکز تحقیقات ایمونولوژی، آسم و آلرژی

The Burden and Social Determinants of **Asthma** Management

انجمن آسم و آلرژی ایران (۱۳۷۵)
IRANIAN SOCIETY OF ASTHMA & ALLERGY (ISAA)

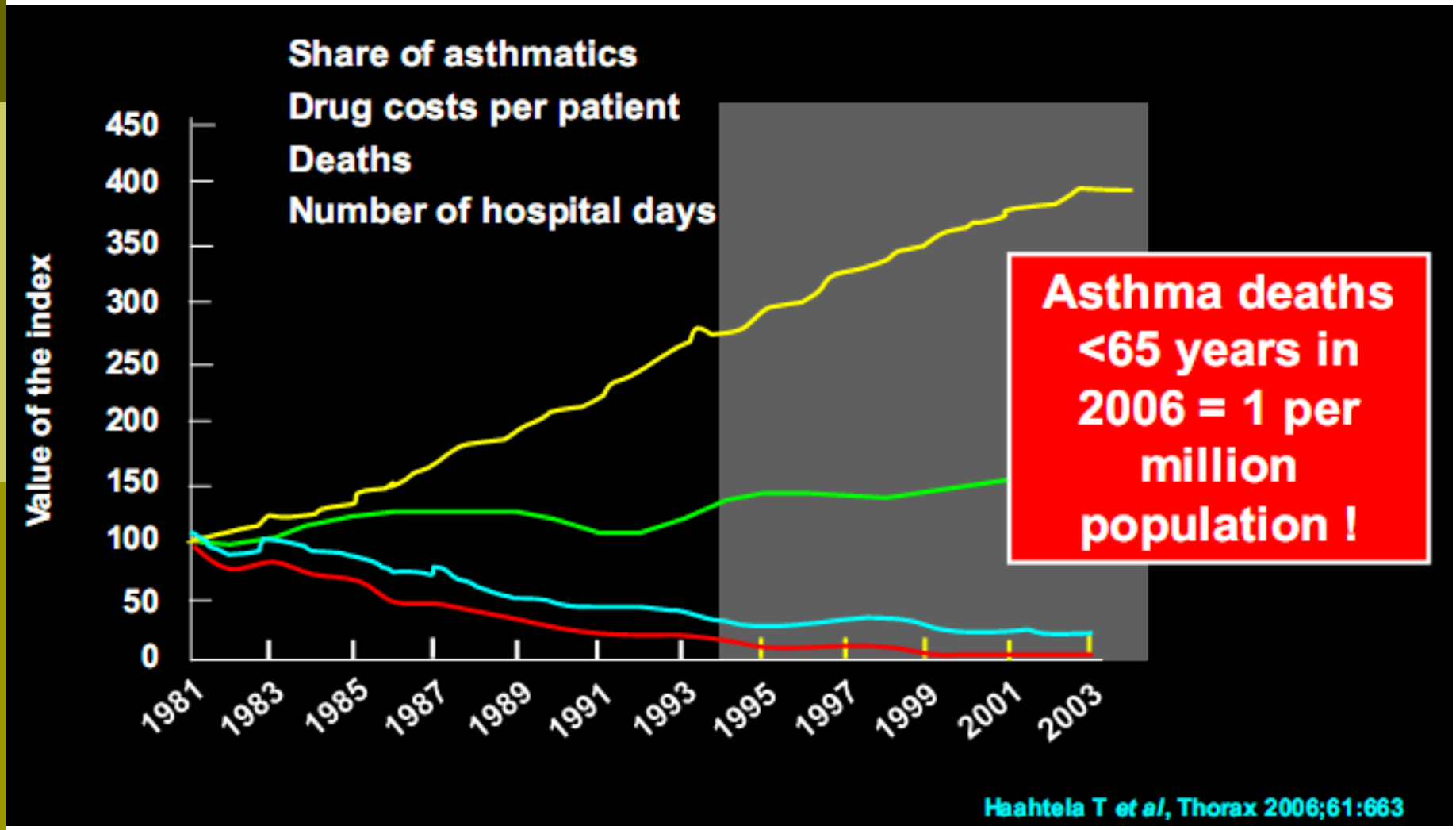
Evidence-based Asthma Guidelines:

- ✓ Global Alliance against chronic Respiratory Diseases (GARD)
- ✓ The Global Initiative for Asthma (GINA)
- ✓ The Allergic Rhinitis and its Impact on Asthma (ARIA)
- ➢ Support implementation strategies tailored to specific country needs.
- ➢ Iranian Society for Asthma and Allergy (ISAA)



Finnish Asthma Programme 1994 to 2004

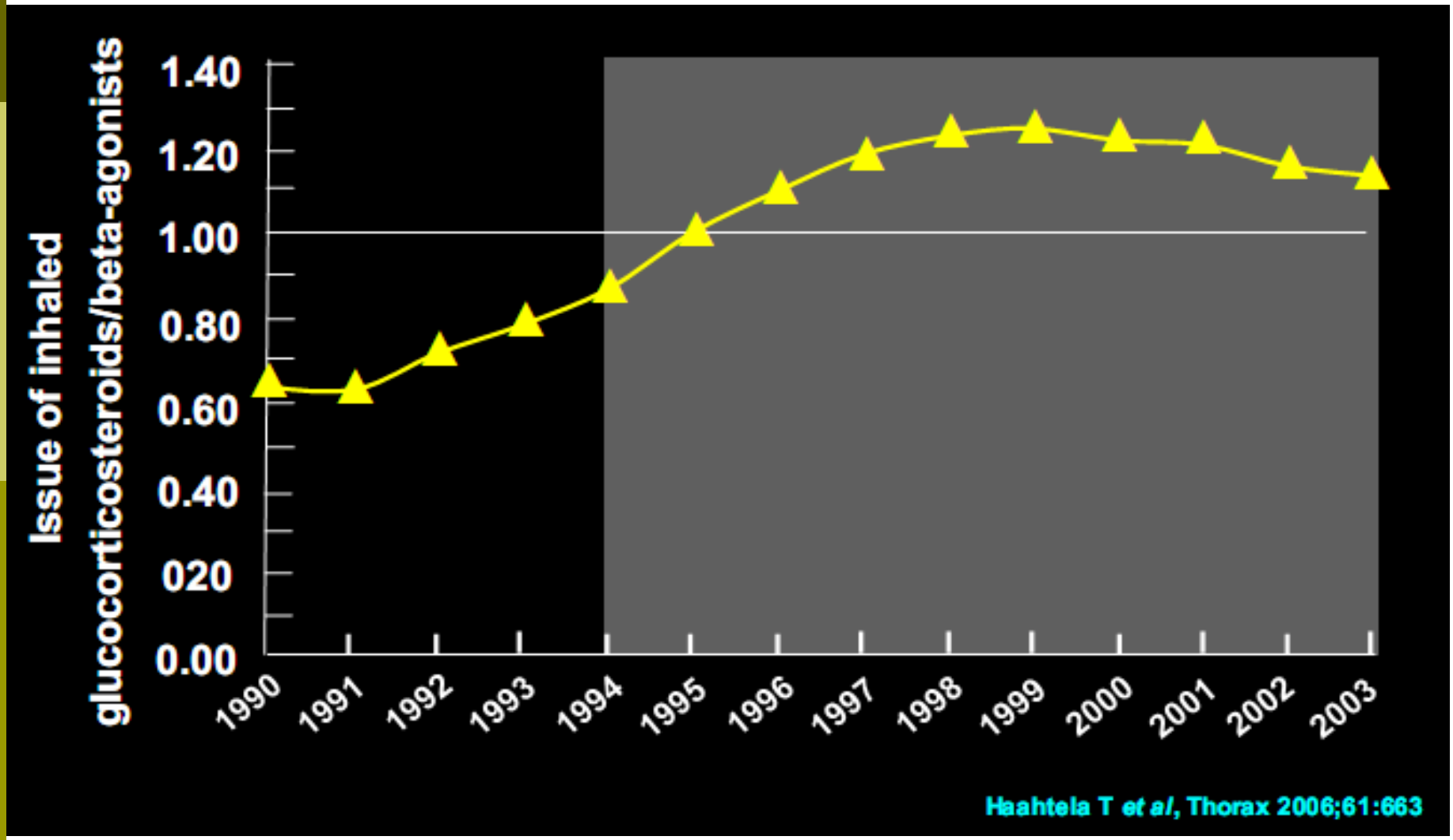
The role of Education!



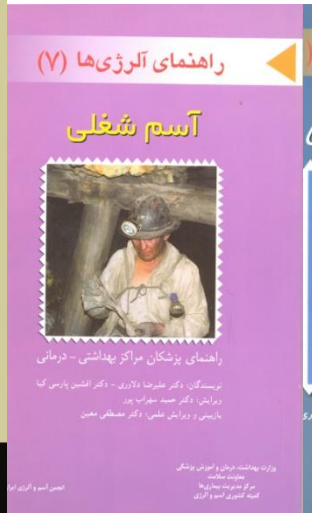
Finnish Asthma Programme 1994 to 2004

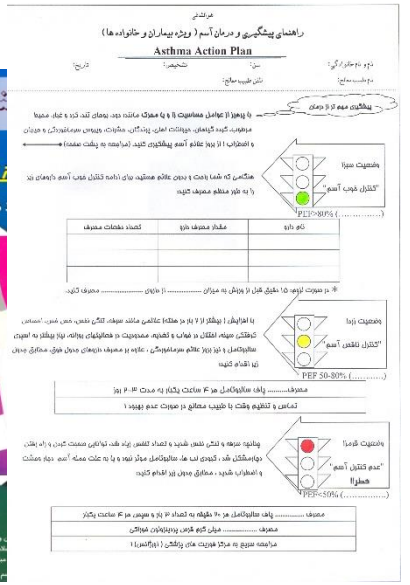
↑*Ratio of Use of ICS versus beta2 - agonists*

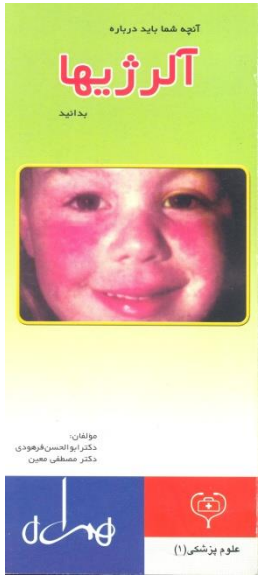
The role of Education!

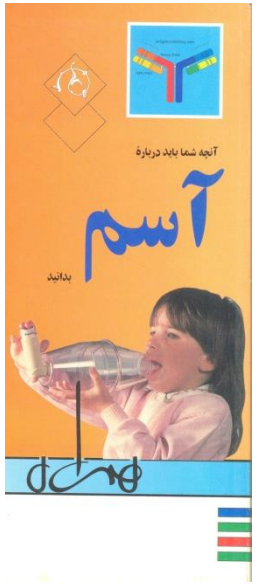


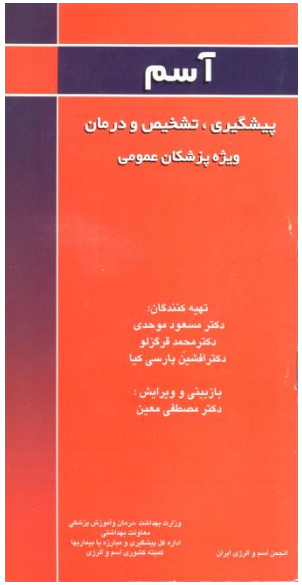
The role of Education in Primary/Secondary Prevention!

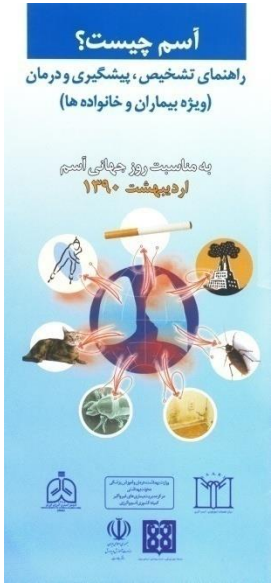


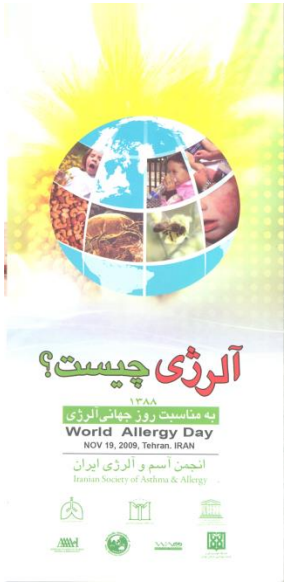












The Burden and Social Determinants of **Asthma** Management

Economic Burden of Asthma

- **2005**:in **Europe**,the total cost of asthma:€17.7 billion per year, indirect cost of absence from work: €9.8 billion (55.36% of total costs)
- **2013**:in **Europe**,total cost of asthma: €33 billion
- **USA**:The total cost of asthma:$56 billion
- **USA:** 10.5 million school days & 14.2 million work days missed!
- **Asthma cost** the **USA:** $**3,300** per person with asthma each year!

Iran J Public Health, Vol. 44, No.9, Sep 2015, pp.1212-1218

Original Article

Asthma Economic Costs in Adult Asthmatic Patients in Tehran, Iran

*Laleh SHARIFI [1], *Zahra POURPAK [1], Mohammad Reza FAZLOLLAHI [1], Saied BOKAIE [2], Hamid Reza MOEZZI [3], Anoushirvan KAZEMNEJAD [4], Mostafa MOIN [1]*

- Total cost of asthma was 590.22 ±32.18 USD for one patient per one year!

Control status	Number	Percent	Total costs (USD)	Std. error of mean	*P* value
Uncontrolled	54	27.7	708.20 a*	55.22	**0.002**
Partly controlled	99	50.8	572.50 bc	57.87	
Completely controlled	42	21.5	487.07 c	40.60	

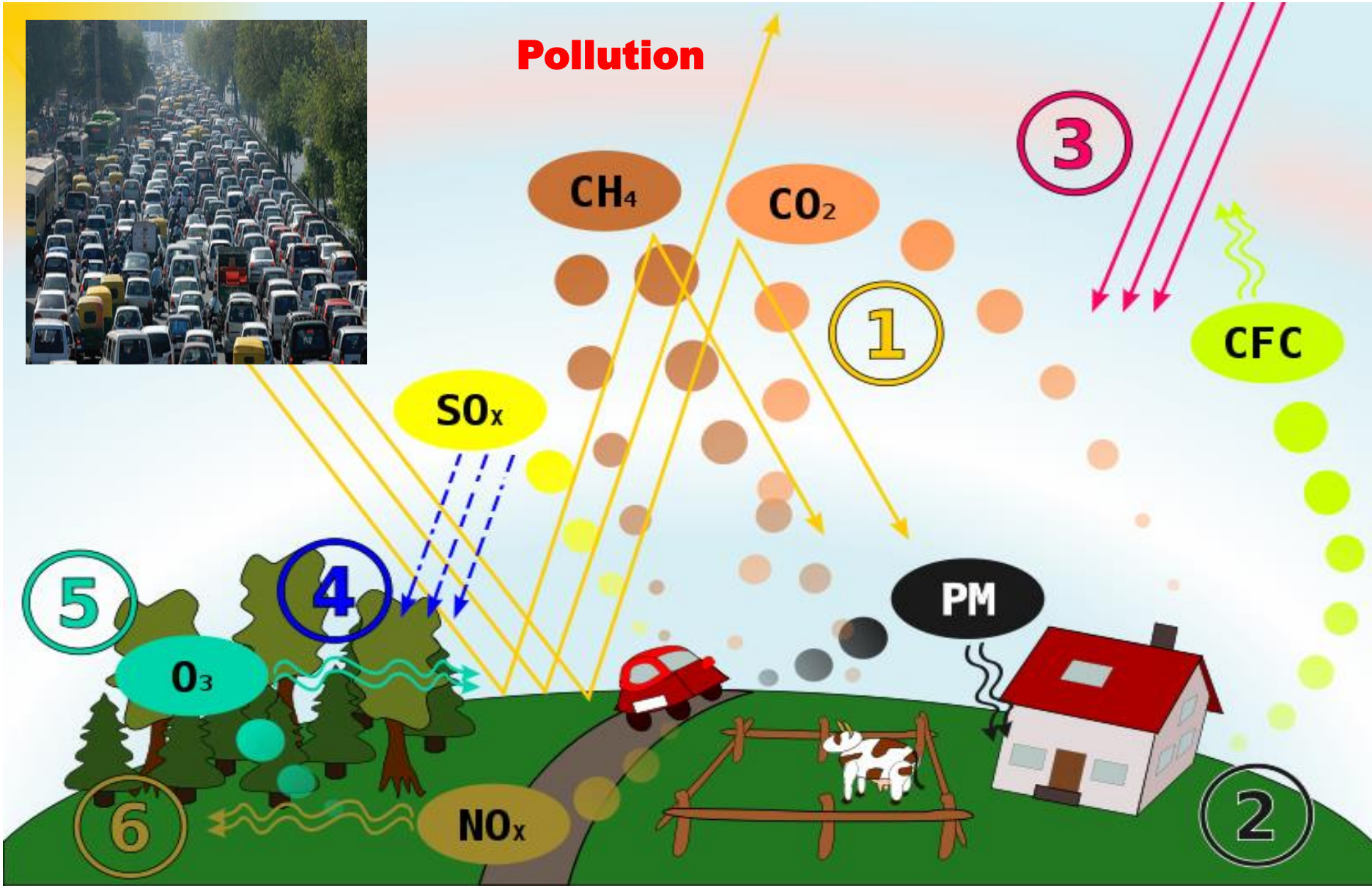
Annual Cost Evaluation of Pediatric Asthma and it´s Associated Factors in Tehran, Iran

- The annual total pediatrics asthma related costs was 367.97±23.06 USD for one patient.
- The highest cost belonged to the **medications (69%)**
- In 2010, Iran Statistics Center indicates that a normal Iranian household expend about **785 USD** for health care.
- the presence of an **asthmatic child** can consume nearly half of the health budget .

Laleh Sharifi[1], Raheleh Dashti[1], Zahra Pourpak*[1], Mohammad Reza Fazlollahi[1], Masoud Movahedi[2], Zahra Chavoshzadeh[3], Habib Soheili[4], Saied Bokaie[5], Anoushiravan Kazemnejad[6], Mostafa Moin[1]

Iranian journal of public health

The Burden and Social Determinants of Asthma Management



The Burden and Social Determinants of Asthma Management

Pollution

Outdoor Airpollution

Asthma,
Asthma attacks,
COPD,
respiratory infections,
rhinitis,
sinusitis
has been associated with various types of air pollution, especially those related to vehicle emissions and the resulting/pollution.

(WHO)

The Burden and Social Determinants of Asthma Management

Pollution

Indoor Air Pollution

- Particulate matter
- Carbon monoxide
- Secondhand tobacco smoke
- Pesticides
- Solvents
- Vollatile organic compounds
- Biollogicall pollutants
  - Mites
  - Allergens
  - Moulds
- Buillt environment
- Radon
- Asbestos
- Occupation-related factors

The Burden and Social Determinants of Asthma Management

Pollution

Indoor Air Pollutiion

❖ **SECOND-HAND SMOKE INCREASES RISK OF:**

- ✓Respiratory tract illness
- ✓Asthma
- ✓Middle ear effusions
- ✓Prenatal complications and low birth weight
- ✓Fire-related injuries
- ✓Sudden infant death syndrome (SIDS)
- ✓Cancers (childhood leukemia and others)

The Burden and Social Determinants of Asthma Management

Pollution

Indoor Air Pollutiion

❖**Children whose mothers smoke:**

- ✓ **70%** more respiratory problems
- ✓ Pneumonia and hospitalization in 1 year is **38%** higher
- ✓ Infant mortality is **80%** higher
- ✓ **20%** of all infant deaths could be avoided if all pregnant smokers stopped by the 16th week of gestation
- ✓ **5** times higher risk of sudden infant death syndrome (SIDS)

The Burden and Social Determinants of Asthma Management

INT J TUBERC LUNG DIS 13(8):1023–1028

Pollution

Adolescent smokers are at greater risk for current asthma and rhinitis

M. Gómez,* W. M. Vollmer,† M. E. Caceres,* R. Jossen,* C. E. Baena-Cagnani‡

*Department of Allergy, Asthma & Immunology, Alas Medical Institute, Salta, Argentina; †Center for Health Research, Kaiser Permanente Northwest, Portland, Oregon, USA; ‡Ear Nose and Throat Department, School of Medicine, Catholic University of Córdoba, Córdoba, Argentina

Table 1 Characteristics of the study sample

	Overall* (n = 2969) %	Current smoker* (n = 398) %	Non smoker* (n = 2571) %	P value†
Male	45	55	43	<0.001
Mother smokes	31	45	28	<0.001
Father smokes	40	51	38	<0.001
Either parent smokes	51	66	48	<0.001
Mother's education				0.10
Primary	22	26	22	
Secondary	40	40	40	
University	38	34	38	


26 February-2 March 2023
3rd International Congress on Inflammation
Inflammatory Outcomes of COVID-19:
Past, Present and Future
سومین همایش بین المللی التهاب
پیامدهای التهابی COVID-19: گذشته، حال و آینده
پلی بین علوم پایه و بالینی
دارای امتیاز بازآموزی
مهلت ارسال خلاصه مقالات: مهر ماه ۱۴۰۱
۱۱-۷ اسفند ۱۴۰۱
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دانشگاه علوم پزشکی و خدمات بهداشتی درمانی تهران
مرکز طبی کودکان
IKHC
مجتمع بیمارستانی امام خمینی (ره)

"از توجه شما متشکرم"