Health promotion and Chronic Respiratory Disease prevention

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Chronic disease accounts for 60% of deaths

Chronic disease account for 80% of health expenditure
Major preventable CRD include:
asthma and respiratory allergies
chronic obstructive pulmonary disease (COPD)
occupational lung diseases
sleep apnea syndrome
pulmonary hypertension.
Reality: Death is inevitable, but it does not need to be slow, painful or premature

"Everyone has to die of something"

World Health Organization

Preventing CHRONIC DISEASES
a vital investment
Live to utilize

- Usual Care
- End-of-Life Palliative Care

$\text{Prevention}$

Age

- Working Years
- Working or Not?
- Mortality diff

20 30 40 50 60 70 80 90
Risk factors

- Obesity - malnutrition
- Inactivity
- Smoking – active and passive
- Alcoholism
- Pollutions – indoor at home/workplace
- Pollutions - outdoor
- Exposures - infections
EUROPE

Deaths in 2000 attributable to selected leading risk factors

- Blood pressure
- Cholesterol
- Tobacco
- High Body Mass Index
- Fruit and vegetable intake
- Physical inactivity
- Alcohol
- Urban air pollution
- Lead exposure
- Occupational carcinogens
- Illicit drugs
- Unsafe sex
- Occupational particulates
- Occupational risk factors for injury

Number of deaths (000s)

Tobacco

Urban air pollution
Reality: these are the rare exceptions

Half-truths: misunderstandings that arise from kernels of truth

"My grandfather smoked and was overweight – and he lived to 96"

Preventing CHRONIC DISEASES a vital investment

World Health Organization
Effects of survival for male doctors who stopped smoking aged 35-44, 1951-2001

Modified from Doll et al.
tobacco
Tobacco use and educational level Bombay 1992-1994

[Bar chart showing the percentage of tobacco use across different educational levels: Illiterate 72.2%, Primary 52%, Middle 39.5%, Secondary 23.9%, College 10%]

Fig 6: Gupta, 1996
Socioeconomic deprivation and risk of dependence on alcohol, nicotine and drugs in UK
Tobacco deaths: future trends

% of deaths due to tobacco

Source: Murray and Lopez (1996)
The Energy Ladder

Increasing cleanliness, convenience and cost of fuel

Improving socio-economic circumstances

- Animal Dung, crops
- Wood
- Charcoal
- Kerosene, coal
- LPG, natural gas
- Electricity
A rural home in Kwa-Zulu Natal
Indoor smoke from solid fuel
Documented occupational risk factors for accelerated loss of lung function and COPD

<table>
<thead>
<tr>
<th>Organic dust</th>
<th>Inorganic dust</th>
<th>Smoke/fumes</th>
<th>Metals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals, plants, fodder (farming)</td>
<td>Building dust (cement, insulations)</td>
<td>welding</td>
<td>Cadmium</td>
</tr>
<tr>
<td>Flour, grains</td>
<td>Quarts</td>
<td>Diesel exhaust</td>
<td>Vanadium</td>
</tr>
<tr>
<td>Wood dust</td>
<td>Asbestos</td>
<td>Fire smoke</td>
<td></td>
</tr>
<tr>
<td>Cotton, textile dust</td>
<td>Coal dust</td>
<td>Organic solvents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>agriculture</td>
<td>Isocyanates</td>
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</tbody>
</table>

10-20 % of COPD is associated with occupational exposures, may be up to 30 % in non-smokers
Urban air pollution
Health promotion and prevention action plans

- WHO Framework Convention on Tobacco Control (WHO FCTC):
- Prevention of Allergy and Allergic Asthma (PAA)
- WHO's Program on Indoor Air Pollution
- WHO occupational CRD
- European Environment and Health Committee (EEHC)
- Children's Environment and Health Action Plan for Europe (CEHAPE)
Reality: 80% of premature heart disease, CRD, stroke and type 2 diabetes can be prevented.

"Chronic diseases can't be prevented"

World Health Organization

Preventing CHRONIC DISEASES a vital investment
Reorganisation is needed in our health care and educations

- From passive watching the preventable risk factors to active primary prevention and health promotion
- From mainly management of acute disorders to prevention of acute exacerbations
- Health educations focus redirected from management of acute diseases to chronic disease management
- Altered priorities in resource allocation to research and health care system
Chronic disease
which type of intervention is effective?

Education of health care professionals
Feed-back and reminders aimed at both health care professionals and patients
Patient education
Financial incentives
effective interventions

Laws and regulations
Tax and price interventions
Improving the built environment
Advocacy
Community-based interventions
School-based interventions
Workplace interventions
Screening
Clinical prevention
Disease management
Rehabilitation
Palliative care
What is the effect of implementation of a national health strategy?
a large-scale community-based intervention was organized

Heart disease and lung cancer death rates among men aged 30 years and over in Finland

led to greater life expectancy – seven years for men - six years for women
What is the effect of implementation of a national health strategy for CRD?

A 10 year asthma program in Finland: major change for the better

Haahtela, T et al. Thorax 2006;61:663-670
<table>
<thead>
<tr>
<th>Facility/knowledge</th>
<th>Proportion of health centres (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak flow meters available</td>
<td>100</td>
</tr>
<tr>
<td>Guided self-management used</td>
<td>98</td>
</tr>
<tr>
<td>Inhaled corticosteroid as first line medication</td>
<td>97</td>
</tr>
<tr>
<td>Spirometry available</td>
<td>95</td>
</tr>
<tr>
<td>Local asthma-responsible person designated</td>
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</tr>
<tr>
<td>Nurse</td>
<td>94</td>
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<tr>
<td>General practitioner</td>
<td>83</td>
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<tr>
<td>Regional asthma programme available</td>
<td>79</td>
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<tr>
<td>Diagnosis of adult asthma in health centre</td>
<td>77</td>
</tr>
<tr>
<td>At least annual follow up visit recommended</td>
<td>75</td>
</tr>
<tr>
<td>Asthma education arranged for professionals (mean 3.2 sessions/centre in 2 years)</td>
<td>71</td>
</tr>
</tbody>
</table>
Increase in number of asthmatic patients entitled to special reimbursement for their drug costs, increase in drug costs per patient, decrease in death rate, and decrease in hospital days due to asthma. Numbers are relative changes after 1981 (index, 1981 = 100).

Haahtela, T et al. Thorax 2006;61:663-670
Direct annual costs of asthma (medication, hospital days, doctor visits) and compensation for disability pensions and days off work in Finland, 1993 and 2003. The gross national product in Finland was €19,809/inhabitant in 1993 and €27,585/inhabitant in 2003 (index year in all calculations 2003). Data from Social Insurance Institution.

Haahtela, T et al. Thorax 2006;61:663-670
Ratio of consumption of inhaled corticosteroids and beta2 agonists from 1990 to 2003 in defined daily doses (ddd/1000 inhabitants/day). A combination of steroid and beta2 agonist was added to the prescriptions for both beta2 agonists and corticosteroids. Data from National Agency for Medicines.
GARD has collected the knowledge and the tools for prevention of CRD

GARD can support national initiatives through collaborating with a national GARD committee
Thank you very much for attention