

Evidence based approaches to prevention of cardiovascular diseases

Dr. Shanthi Mendis
Coordinator
Cardiovascular Diseases Program



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World Health Organization

Cardiovascular Diseases

- *What are they?*
- *Why and how do they develop?*
- *What is the global burden from CVD ?*
- *How can they be prevented or treated ?*



Prevention and Control of CVD

CHD

CeVD

HBP/Hyperlipidemia

Rheumatic HD

Cardiomyopathies

CCF

Congenital HD



Global Cardiovascular Disease Epidemic

Deaths - 33%

Disease Burden -10%



Low and middle income countries



Immersed in a sea of risk
 Leading 12 selected risk factors as causes of disease burden

■ = Major NCD risk factors

Developing countries

Developed countries

High Mortality

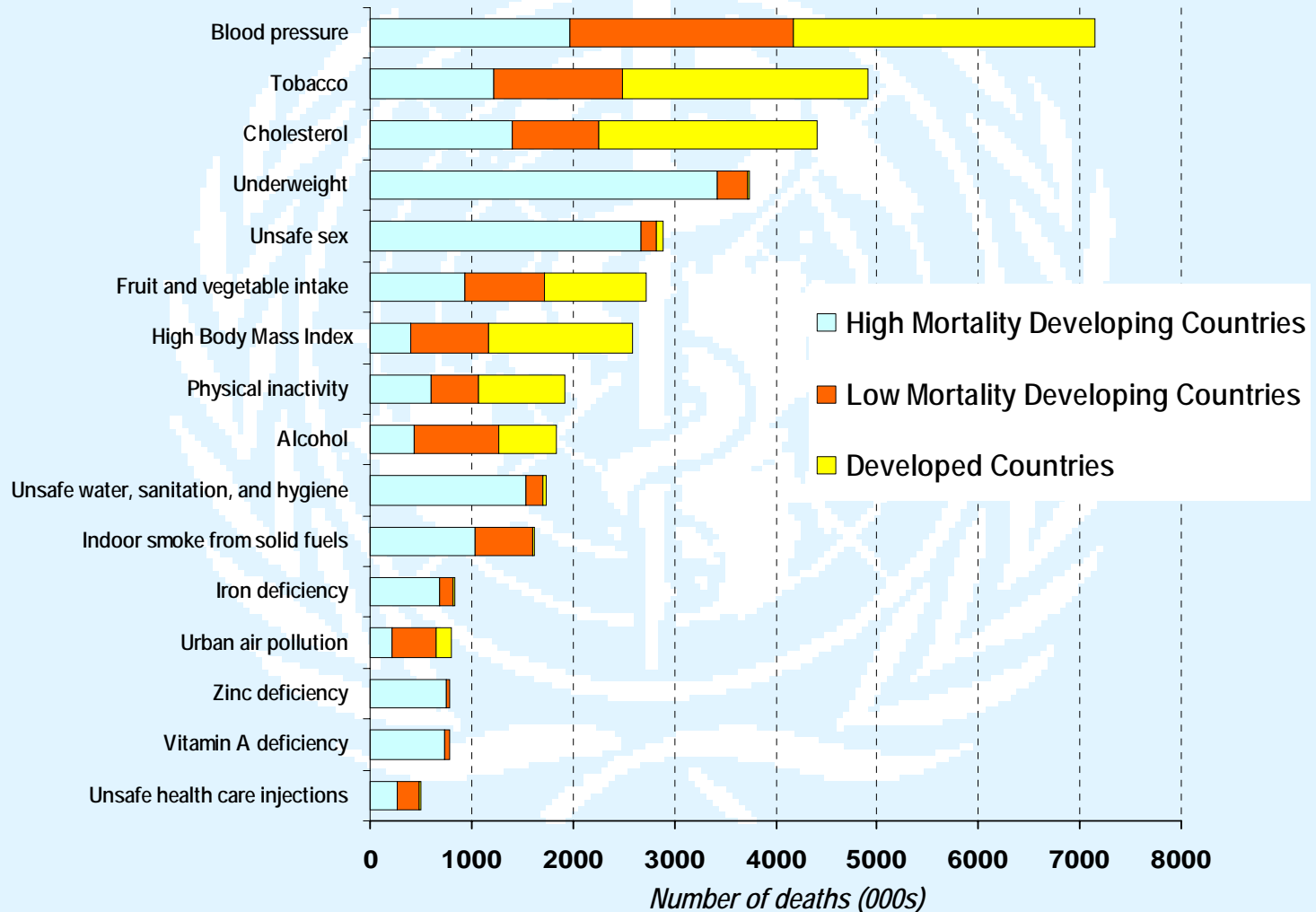
Low Mortality

1	Underweight	<u>Alcohol</u>	<u>Tobacco</u>
2	Unsafe sex	<u>Blood pressure</u>	<u>Blood pressure</u>
3	Unsafe water	<u>Tobacco</u>	<u>Alcohol</u>
4	Indoor smoke	Underweight	<u>Cholesterol</u>
5	Zinc deficiency	<u>Body mass index</u>	<u>Body mass index</u>
6	Iron deficiency	<u>Cholesterol</u>	<u>Low fruit & veg. intake</u>
7	Vitamin A deficiency	<u>Low fruit & veg intake</u>	<u>Physical inactivity</u>
8	<u>Blood pressure</u>	Indoor smoke - solid fuels	<u>Illicit drugs</u>
9	<u>Tobacco</u>	Iron deficiency	Unsafe sex
10	<u>Cholesterol</u>	Unsafe water	Iron deficiency
11	<u>Alcohol</u>	Unsafe sex	Lead exposure
12	<u>Low fruit & veg intake</u>	Lead exposure	Childhood sexual abuse

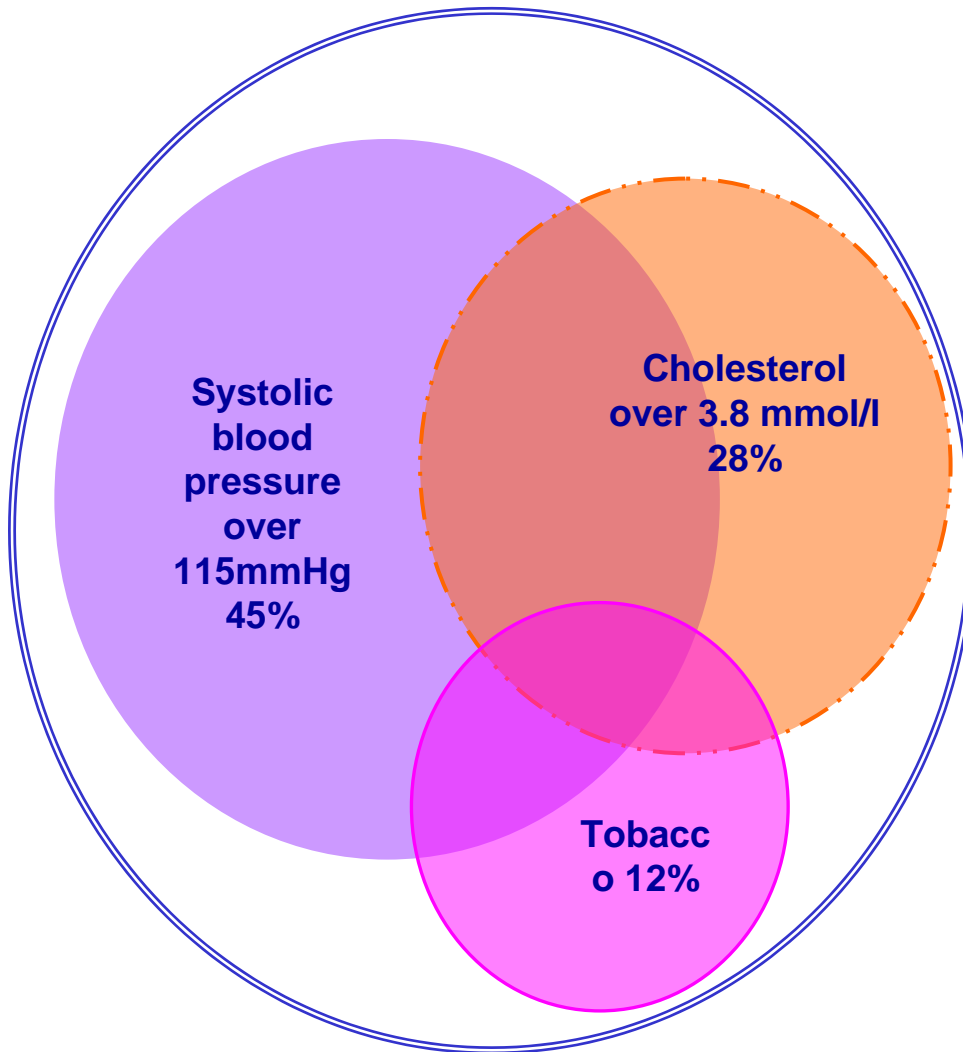


World

Deaths in 2000 attributable to selected leading risk factors



Global cardiovascular disease burden due to 6 major risk factors



Systolic pressure > 115mmHg	45%
Cholesterol > 3.8 mmol/l	28%
Fruit & vegetable < 600g/day	16%
Body mass index > 21 kg/m²	15%
Tobacco	12%
Physical inactivity	11%

Area proportional to population attributable fraction for global DALYs, overlap approx. proportional to joint effects

Optimal BP and cholesterol levels

- SBP 115 mmHg

-Cholesterol 3.8 mmol/l



Key messages of WHR 2002

- Substantial proportion of CV deaths is attributable to avoidable risks
 - Reducing these known risks can provide substantial public health gains
 - Cost effective interventions are available to halve the CVD burden in the next 5 years
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Costeffective Interventions

- Population wide strategies -
 - Fiscal and regulatory interventions
 - Health education through mass media
 - Absolute risk approach to manage CV risk
 - Secondary Prevention of MI and Stroke
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Public Health Interventions to Support Prevention

- Agricultural subsidies for fruits and vegetables
- Tax policy with respect to food/tobacco
- Food labelling regulations (sodium, sat. fat)
- Comprehensive banning on advertising tobacco products

