BIOCHEMISTRY TO BEHAVIOUR

Cardiovascular disease (CVD) remains the grim reaper's primary calling card, but people can take steps to keep the world's number one killer at bay.

By Bill Cannon.

HEARTBREAKING STATISTICS

Cardiovascular disease — pathologies of the heart, blood vessels and the vascular system of the brain — claims more lives than anything else, accounting for nearly one-third of deaths worldwide. Among CVDs, ischaemic heart disease (failure to supply blood to the heart) is caused primarily by clogged arteries (atherosclerosis), it results in the most fatalities among men and women but also represents the largest disparity in heart-disease type between the sexes. Those deaths are projected to increase until at least 2030.

MORE HEART DISEASE AHEAD

Over the next twenty years, significant increases in deaths from coronary diseases — ischaemic heart disease and stroke — will only be outpaced by cancer, while deaths from many other diseases will decrease.

WHEN ARTERIES CLOG

Fatty material, cholesterol, cellular waste and other substances can build up in the endothelial cell lining of an artery, leading to plaque formation and blockages that starve the heart of oxygen and cause a heart attack. Cholesterol and triglycerides, high blood pressure and cigarette smoke, which accelerates atherosclerosis, seem to be the leading plaque promoters.

33
global deaths per minute from cardiovascular disease in 2008

GLOBAL HEART-DISEASE BURDEN

The rate of ischaemic heart disease among men varies around the world, and similar variation exists for women.

the projected annual number of worldwide deaths from cardiovascular disease in 2030

23.6M

PRINCIPLES OF PREVENTION

The World Heart Federation splits CVD risk into two categories. Members of certain groups — men, the elderly and those with a family history of heart disease — are simply at elevated and 'non-modifiable' risk. Other risk factors shown below can be modified by lifestyle changes.

High blood pressure

Cut blood pressure through weight control, exercise, healthy diet, avoiding tobacco products and reducing alcohol and sodium intake.

Bad body biochemistry

Poor diet, high cholesterol and obesity are closely associated, and so is the remedy: a diet low in fat and high in fruits and vegetables.

Inactivity

Just 30 minutes of exercise five times a week, or 20 minutes of vigorous exercise three times a week, reduces your risk of cardiovascular disease.

HIGH CHOLESTEROL FOLLOWS HIGH INCOME

People living in high-income countries suffer from high total cholesterol twice as much as people in low-income countries, according to data from the World Health Organization in 2008. So the richest countries might benefit the most from preventive measures, such as improved diet.

Raised cholesterol (≥ 190 mg dL⁻¹), ages 25+, age adjusted

Male Female

the proportion of all heart disease that might be prevented if people would exercise, eat a healthy diet and not use any tobacco products.

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