Getting to the heart of new risk factors for cardiovascular disease

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‘Nutrition & CVD: The Heart of the Matter’
Cardiovascular disease

“The term cardiovascular disease (CVD) refers to a number of individual diseases affecting the cardiovascular system.”

We have concentrated upon:
• Coronary heart disease (CHD)
• Cerebrovascular disease (‘stroke’)
• Peripheral vascular disease (PVD)
Importance of cardiovascular disease

“Cardiovascular diseases account for over half of all deaths in middle age and one-third of all deaths in old age in most developed countries. Globally CVDs account for 30% of all deaths.”

“CVD is the leading cause of death worldwide, accounting for around 17.3 million deaths each year (31% of all deaths globally). In 2012, it was responsible for the largest proportion of non-communicable disease deaths under the age of 70.”

WHO (2011)
The ‘classical’ (or ‘conventional’) risk factors for cardiovascular disease

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Modifiable by diet?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>No</td>
</tr>
<tr>
<td>Gender</td>
<td>No</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>(Yes)</td>
</tr>
<tr>
<td>Ethnic group</td>
<td>No</td>
</tr>
<tr>
<td>Smoking</td>
<td>No</td>
</tr>
<tr>
<td>Serum cholesterol (LDL-C+, HDL-C-)</td>
<td>Yes</td>
</tr>
<tr>
<td>Serum triglycerides</td>
<td>Yes</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Yes</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Somewhat</td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>No</td>
</tr>
<tr>
<td>Obesity</td>
<td>Yes</td>
</tr>
</tbody>
</table>
‘Emerging’ risk factors for cardiovascular disease

<table>
<thead>
<tr>
<th>Risk factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid-related factors (other than cholesterol)</td>
</tr>
<tr>
<td>Inflammation-related factors</td>
</tr>
<tr>
<td>Vascular function</td>
</tr>
<tr>
<td>Coagulation-related factors</td>
</tr>
<tr>
<td>Oxidative stress (markers of)</td>
</tr>
<tr>
<td>Blood homocysteine concentration/B vitamin status</td>
</tr>
<tr>
<td>Microbiome</td>
</tr>
<tr>
<td>Factors related to adipose tissue</td>
</tr>
<tr>
<td>“Common mechanisms”</td>
</tr>
<tr>
<td>Abdominal obesity/Metabolic syndrome</td>
</tr>
<tr>
<td>Maternal and/or fetal undernutrition</td>
</tr>
</tbody>
</table>
Journey of a Task Force report update

2005

Cardiovascular Disease: Diet, Nutrition and Emerging Risk Factors
Edited by Sara Stanner

2019

CARDIOVASCULAR DISEASE
Diet, Nutrition and Emerging Risk Factors
SECOND EDITION

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Major changes in emphasis since the First Report
Maternal/fetal undernutrition → Lifecourse nutrition
Insulin resistance → Obesity and its associates
Oxidative stress → Much new understanding
Homocysteine → Vitamins and cardiovascular disease
Influences of the human gut microbiome
Physical activity and inactivity → ? Sedentary behaviour
Task Force members past and present

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- Professor Robert Clarke
- Dr Simon Coppack
- Professor Caroline H. Fall
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And massive thanks to the BNF team:

- Sarah Coe
- Dr Stacey Lockyer
- Beth Hooper
- Dr Lucy Chambers
- Roy Ballam
The BNF Task Force on Cardiovascular Disease: Diet, Nutrition and Emerging Risk Factors

Our conclusions
(NB to be summarised in greater detail by Professor Buttriss)

1. Diet extremely important
2. But not any one particular dietary component – no ‘superfoods’
3. Dietary/nutritional effects may be subtle
4. One big effector, not strictly ‘diet’: Physical activity/inactivity
This morning’s programme

- Early life nutrition: the origins of CVD?
  Prof Caroline Fall, Professor of International Paediatric Epidemiology within Medicine, University of Southampton

- Diet and inflammation-related factors in CVD
  Prof Parveen Yaqoob, Professor of Nutritional Physiology, University of Reading

- Human gut microbiome: a new frontier for CVD
  Prof Julie Lovegrove, Hugh Sinclair Professor of Human Nutrition, University of Reading

Break

- Physical inactivity and sedentary behaviour as CVD risk factors
  Bridget Benelam, Nutrition Communications Manager, British Nutrition Foundation

- Summing up the public health implications
  Prof Judy Buttriss, Director General, British Nutrition Foundation

BNF Closing Remarks