

**Nutri
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Preventing cancer

Factors such as inappropriate food and nutrition, physical inactivity, overweight and obesity are important causes of cancers.

Cancers are largely preventable

People die less frequently from nutritional deficiencies, infectious diseases, predation, and accidents, whereas chronic diseases, including cancer — which are more common in older people — become more common.

Cancer in general, and cancers of different types and sites, are agreed to have various causes, among which are inherited genetic predisposition and the increasing likelihood that cells will accumulate genetic defects as people age. In many of its forms, cancer is a disease that can cause great suffering and claims many lives.

However, cancer is not an inevitable consequence of ageing, and people's susceptibility to it varies. There is abundant evidence that the main causes of patterns of cancer around the world are environmental. This does indeed mean that, at least in principle, most cancer is preventable, though there is still discussion about the relative importance of various environmental factors.

But what are these environmen-

tal factors, what are their relative importance, and how may they vary in different times in the course of a life and in different parts of the world, and how might they interact with each other?

Thousands of epidemiological and experimental studies have tried to look for answers. Since the early 1980s, relevant United Nations agencies, national governments, authoritative non-governmental organisations, and researchers and other experts in the field have agreed that food and nutrition, physical activity, and body composition are individually and collectively important modifiers of the risk of cancer, and taken together, may be at least as important as tobacco.

By the mid-1990s the general consensus became more solidly based on methodical assessment of the totality of the relevant literature.

There is now general consensus shared by scientists, health professionals, and policy-makers on the relationships between food, nutrition, physical activity, body composition, and the risk of cancer. This



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consensus is based on the findings of a rapidly growing mass of increasingly well-designed epidemiological and experimental studies and other relevant evidence.

Taking into account all factors, research findings have shown that cancer is, in large part, a preventable disease. This is the objective of

the WCRF/AICR report.

How much is preventable?

The WCRF/AICR report emphasised that the term "prevention" does not mean the elimination of cancer. It

> TURN TO SF10

THE World Cancer Research Fund (WCRF) International and the American Institute for Cancer Research (AICR) published the *Second Expert Report: Food, Nutrition, Physical Activity and the Prevention of Cancer: A Global Perspective* in November 2007.

This report will certainly become an authoritative source of reference in this field, just like the first report in 1997. The report is intended as a guide to future scientific research, cancer prevention programmes and health policy around the world. It provides a solid evidence base for policy-makers, health professionals, and informed and interested people to draw on and work with.

I would like to share selected specific parts of the report with readers through several installments of *NutriScene*. I will start with an overview of the report, followed by other write-ups, highlighting specific chapters or sections in this publication, especially those aspects related to food and nutrition.

Cancers are among the most important causes of death in this country. I really feel we should study this report and try to draw on the information provided for our own cancer prevention programmes.

> FROM SF9

means reduction in its occurrence, such that at any age fewer people have cancer than otherwise would be the case. The overall commitment of scientists and health professionals committed to disease prevention is to reduce the rates not just of cancer, but of all diseases, so that more people enjoy good health until they eventually die in old age.

R. Doll and R. Peto, in a landmark study published in the *Journal of the National Cancer Institute* in 1981 concluded: "It is highly likely that the United States will eventually have the option of adopting a diet that reduces its incidence of cancer by approximately one third, and it is absolutely certain that another one third could be prevented by abolishing smoking". Cancers of some sites, notably of the colon, are generally agreed to be greatly or mostly affected by food and nutrition.

Since then, authoritative estimates of the preventability of cancer by means of food and nutrition and associated factors have been in broad agreement with the "around one third" figure.

The estimate of the previous WCRF/AICR report was that cancer is 30% to 40% preventable over time, by appropriate food and nutrition, regular physical activity, and avoidance of obesity. On a global scale, this represents over three to four million cases of cancer that can be prevented in these ways, every year.

Purpose and process of the report

This report has two overall general purposes. The first is to summarise, assess, and judge the most comprehensive body of evidence yet col-

Food counts

lected and displayed on the subject of food, nutrition, physical activity, body composition, and the risk of cancer, throughout the life-course.

The second purpose is to transform the evidence-derived judgements into goals and personal recommendations that are a reliable basis for sound policies and effective actions at population, community, family, and individual levels in order to prevent cancer worldwide.

The whole process of preparing this report was organised into various overlapping stages, emphasising on objectivity and transparency, separating the collection of evidence from its assessment and judgement. First, an expert task force developed a method for systematic review of the voluminous scientific literature. Second, research teams collected and reviewed the literature based upon this methodology. Third, an expert panel was set up to assess and judge this evidence and agreed recommendations.

Overview of the report

There are three parts to the report. Part 1 provides detailed background information and comprises three chapters (chapters 1-3). These introductory chapters show that the challenge can be effectively addressed and suggest that food, nutrition, physical activity, and body composition play a central part in the prevention of cancer.

Chapter 1 shows that patterns of production and consumption of

food and drink, of physical activity, and of body composition have changed greatly throughout human history. Remarkable changes have taken place as a result of urbanisation and industrialisation in most countries in the world. Notable variations have been identified in patterns of cancer throughout the world. Furthermore, projections indicate that rates of cancer in general are liable to increase.

Chapter 2 outlines current understanding of the biology of the cancer process, with special attention to the ways in which food and nutrition, physical activity, and body composition may modify the risk of cancer.

These environmental factors are most important and can be modified. Evidence shows that only a small proportion of cancers are inherited.

The types of evidence that the expert panel has agreed are relevant to its work are summarised in Chapter 3. No single study or study type can prove that any factor definitely is a cause of, or is protective against, any disease. Reliable judgements on causation of disease should be based on assessments of a variety of well-designed epidemiological and experimental studies.

Part 2 of the Report is focused on the evidence that have been meticulously assembled and the judgements made and present the findings in seven chapters (chapters 4-11).

Chapter 4 is concerned with types of food and drink. The judge-

ments of the expert panel are, whenever possible, food- and drink-based, reflecting the most impressive evidence. Findings on dietary constituents and micronutrients (for example, foods containing dietary fibre) as well as dietary supplements, and patterns of diet, are included.

Chapters 5 and 6 are concerned with physical activity and with body composition, growth, and development. Evidence in these areas is more impressive than was the case up to the mid-1990s.

Chapter 7 summarises and judges the evidence as applied to 17 cancer sites, with additional brief summaries based on narrative reviews of five further body systems and cancer sites. Obesity is or may be a cause of a number of cancers.

Chapter 8 identifies what aspects of food, nutrition, and physical activity themselves affect the risk of obesity and associated factors.

The relevance of food, nutrition, physical activity, and body composition to people living with cancer, and to the prevention of recurrent cancer, is summarised in Chapter 9. Improved cancer screening, diagnosis, and medical services are, in many countries, improving survival rates. So the number of cancer survivors – people living after diagnosis of cancer – is increasing.

Chapter 10 summarises findings of expert reports in relation to other chronic diseases, as well as nutritional deficiencies and nutrition-related infectious diseases.

Research issues are identified in Chapter 11 and provide opportunities to refine understanding of the links between food, nutrition, physical activity, and cancer, and so improve the prevention of cancer

worldwide.

Part 3 of the report is Chapter 12 and contains the expert panel's public health goals and personal recommendations. These are proposed as the basis for public policies and for personal choices that, if effectively implemented, will be expected to reduce the incidence of cancer for people, families, and communities.

Eight general and two special goals and recommendations are detailed. In each case a general recommendation is followed by public health goals and/or personal recommendations, together with further explanation or clarification as required. The chapter also includes a summary of the evidence, justification of the goals and recommendations, and guidance on how to achieve them.

The goals and recommendations are designed to be generally relevant worldwide and the expert panel recognises that in national settings, the recommendations of this report will be best used in combination with recommendations issued by governments or on behalf of nations, designed to prevent chronic and other diseases.

The full WCRF/AICR report can be obtained from the World Cancer Research Fund International website: www.dietandcancerreport.org/. In addition, do check out the many useful information on the WCRF website: www.wcrf.org/.

NutriScene is a fortnightly column by Dr Tee E Siong, who pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For further information, e-mail starhealth@thes-tar.com.my.