

Association for the Study of Obesity (ASO) and British Feeding and Drinking Group (BFDG)

Early Development and Obesity: Food Preferences, Diet and Appetite Regulation

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University of Liverpool
www.aso.org.uk

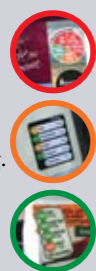


Primary Care 2008 21st – 22nd May
National Exhibition Centre (NEC),
Birmingham
www.primarycare2008.co.uk
WCRF UK will be presenting and exhibiting.

Community Nutrition Group (CNG) Annual Conference
8th – 9th April 2008 Hayes Conference
Centre, Swanwick, Derbyshire
www.cnguk.org/Conference
WCRF UK will be presenting and exhibiting.

Traffic light labelling update

The findings from consumer and stakeholder research by the Food Standards Agency (FSA) have led to a re-issue of the technical guidance for front-of-pack traffic light labelling. The updated guidance includes criteria for breakfast cereals and a change to the red criterion for sugars.



Issue 2 of the technical guidance [1], published in November 2007, includes new information based on research which found consumers wanted:

- nutritional information per portion of breakfast cereal to be based on its dry weight (without milk).
- to be able to easily distinguish between packed breakfast cereals that are high in added sugars and those that are high in sugar due to their high fruit content.

As a result, the FSA has stated that nutritional information should be based on realistic portion sizes and that, in the case of breakfast cereals, this should be provided on a dry weight basis. Monosaccharides or disaccharides, used for their sweetening properties, are defined as added sugars. The sugar content of dried fruit is described as intrinsic, and the sugars in milk and milk powder have not had guidelines set to limit their intake and will be referred to as naturally occurring sugars on the food labels.

The colour code used for sugars in food products is based on both the total and added sugar components as follows:

- green if total sugars are less than or equal to 5g/100g.
- amber if total sugars exceed 5g/100g and added sugars are less than 12.5g/100g.
- red if added sugars are more than 12.5g/100g.

The revision of the technical guidance, which replaces Issue 1 published in January 2007, also includes advice on the design and positioning of the traffic light signposts based on findings from the research.

References

1. Food Standards Agency. 2007. *Front-of-pack Traffic light signpost labelling Technical Guidance. Issue 2*. [online]. Available from <http://www.food.gov.uk/foodlabelling/signposting/> [Accessed 25 January 2008]

Cook to golden, not brown

A new report by the Heatox Project [1] on heat-generated food toxicants found that exposure to acrylamide poses a higher estimated risk to European consumers compared to many regulated food carcinogens.

Acrylamide is a toxic product formed by the Maillard reaction between the amino acid asparagine and reducing sugars, which occurs during cooking at high temperatures.

The Heatox Project involved 24 research partners from 14 countries over a period of three years. Results showed that for processed foods, the two high-risk areas are processed potato products and baked bread, but that there are steps in industrial cooking that can minimise acrylamide formation. For example, acrylamide levels were reduced by 40 per cent in white bread by applying steam during the final five minutes of baking, with no effect on the sensory qualities.

The Heatox Project recommends that overcooking is avoided, for example, not exceeding 170°C when deep frying potatoes, and to toast bread to the very lightest colour acceptable.

WCRF/AICR's Expert Report [2] notes that frying, grilling and barbecuing generate temperatures of up to 400°C, and sometimes use a direct flame to cook food. These methods create carcinogenic compounds, and therefore it is a wise precaution not to consume burned or charred foods frequently or in large amounts.

However, the Heatox Project suggests that overall the cancer risk associated with food-borne acrylamide exposure is probably low. This corresponds with the WCRF/AICR Report, which found only limited suggestive evidence of an association between methods of preparation and cancer risk. More research is needed before any conclusions can be made.

References

1. The Heatox Project. 2007. *Heat-Generated Food Toxicants; Identification, Characterisation and Risk Minimisation*. [online]. Available from <http://www.heattox.org> [Accessed 25 January 2008]
2. World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007



Recommendations Poster



The first in our new series of posters will brighten any patient waiting room. This poster sets out our new Recommendations, which were developed from the WCRF/AICR Expert Report: *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*, in a clear format to help encourage healthier lifestyle choices.

To request a free copy, email informed@wcrf.org or telephone 020 7343 4205.

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Please circulate this newsletter to colleagues to help us spread the message that cancer is a largely preventable disease.

Informed is available free of charge to all health professionals.

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Informed FOR HEALTH PROFESSIONALS
News on diet, lifestyle and cancer prevention



World Cancer Research Fund

Understanding risk

The public are frequently subjected to 'health warnings' about cancer, many of which refer to an increased or decreased risk of a particular lifestyle behaviour. But what exactly is risk in epidemiological terms and how can health professionals explain risk in a meaningful way? Jane de Burgh reports.



Factors that increase or decrease the risk of cancer are often the subject of media reports, but how helpful is this information to the general public who may not know how to interpret the data presented? As the people the public turn to for advice, health professionals can play a key role in communicating the relevance of risk to patients or clients, and can also address changes they can make to decrease their cancer risk.

Risk can be expressed in terms of 'absolute risk' and 'relative risk'. Absolute risk describes the chance of a disease occurring within a particular group. Using absolute risk, one might be able to make a statement such as 'smokers have a 25 per cent chance of developing lung cancer'. However, absolute risk tells you nothing about how this level of risk compares with that of other groups. In the example just given, it would be useful to know whether, and to what extent, this risk is higher, lower or the same as in people who do not smoke.

Relating risk

'Relative risk' addresses this by describing how many times greater or lower a risk is in one group compared with another (so a relative risk of 3 signifies a risk three times greater). It therefore indicates how much more likely a group exposed to a risk factor is to develop the disease than an unexposed group. Relative risk is important for two reasons. Firstly, it helps to establish whether or not there is a relationship between the exposure (risk factor) and the disease in question. All other things being equal, if the incidence of disease is the same in exposed and unexposed groups, then the exposure is unlikely

to cause the disease. Conversely, if the disease is much more common in the exposed group, there is an association between the exposure and the disease (although this does not necessarily mean that the exposure has actually caused the disease). Secondly, relative risk indicates the magnitude of impact that the exposure has.

As relative risk is a proportionate difference, it is important to take into account an individual's baseline risk. For example, in a person who has a high risk of colorectal cancer to start with, perhaps because of family history or removal of a precancerous polyp, the overall impact of a high relative risk is greater than in a person with a low baseline risk. This is also important for the idea of population risk.

Putting risk into context

Despite its uses, the concept of relative risk can be misleading if not put into context. Take the example of a national lottery: one individual buys a single ticket and another buys four tickets – the latter obviously has a four times higher chance, or risk, of winning the lottery than his friend (i.e., a relative risk of 4). However, each ticket has only a minuscule chance of bearing the jackpot numbers, so his risk of winning is still low, whether he has bought one ticket or four. In health terms, if a disease is rare, even those with a fairly high relative risk remain unlikely to develop it, despite being at greater risk than others in the population.

This leads to a concept referred to as 'population risk'. In a population, a factor that increases risk even only modestly can be responsible for a large number of cases, if the disease is common (such as breast cancer).

Conversely, if the disease is uncommon, then even factors that cause a considerably increased risk will account for only a few cases. This has important implications for public health.

As calculating risk can be complex, health professionals can play a vital role in communicating which risk factors or lifestyle behaviours their patients should be most concerned about for reducing cancer risk, as well as the risk of other diseases.

CANCER RISK SPOTLIGHT PROCESSED MEAT AND BOWEL CANCER

WCRF/AICR's recent Expert Report [1] *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective* assessed aspects of diet



and exercise as risk factors for cancer. One particular factor, processed meat, illustrates nicely that even a small change in relative risk could result in a significant reduction in cancer cases nationally or globally.

A systematic review of 58 cohort and case-control studies suggested that processed meats are a convincing cause of bowel cancer. The overall relative risk was estimated to be around 1.2 – that is, a person who eats 50g of processed meat a day is 20 per cent more likely to develop bowel cancer than a person who does not eat processed meat. This appears to be a modest increase in risk but could amount to a large number of bowel cancer cases in a country where processed meat is regularly consumed in high quantities.

References

1. World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007

New research grants announced

Each year, WCRF UK invests vital funding in cancer prevention research through the WCRF International research grant programme. Twelve grants were awarded this year of between £22,000 and £150,000 per project. One partly funded Bristol-based study [1] is using original ways of exploring the reasons why obesity in young people is increasing. The research team will use Global Positioning Systems and activity monitors to track the behaviour of 1,000 children, and will analyse how the environment influences their choices around foods and physical activity.

Further afield, a study in the Netherlands [2] is examining the effects of body weight, height, physical activity and energy restriction during childhood on bowel cancer risk later in life. The researchers will follow a cohort of over 120,000 men and women to determine whether these factors could be linked. In France, a two-year project will evaluate the protective effect of folate against lung cancer as part of a large European prospective study [3].

All grants are awarded to projects that will build on the current base of knowledge and our 2007 Expert Report highlights particular areas where further research would be helpful. These include: further investigation of food processing, production and cooking methods; specific research

issues such as whether weight loss in obese people reduces their cancer risk; and how exposures (such as being breastfed and undertaking physical activity) in early life and childhood affect cancer risk in the long-term. In addition, there is clearly an urgent need for more research into cancer survivorship and, as a result, in 2006 we made a specific call for research applications. The response was excellent and this area is now a permanent priority, with grants being awarded to researchers looking at important issues such as whether changes to diet and physical activity levels after a diagnosis of cancer can affect the outcome of treatment. Visit www.wcrf-uk.org/research for more information on our grant programme.

References

1. Dr Ashley Cooper, University of Bristol, UK. *Personal and Environmental Determinants of Eating Behaviours and Obesity in Adolescents (PEACHEB)*
2. Dr Matty Weijnenberg, Universiteit Maastricht, The Netherlands. *Body weight and height, weight change, energy restriction in childhood and physical activity as determinants of colorectal cancer: the role of (epi)genetic instability*
3. Dr Paul Brennan, IARC, France. *Evaluating the protective effect of folate against lung cancer in a large European prospective study*



Cancer survivors and healthy lifestyles

The term 'cancer survivors' describes anyone with a diagnosis of cancer, from the time of diagnosis throughout the rest of their lives. Cancer survivors are increasing in number due partially to an increase in cancer prevalence and in world populations, but also because cancers are being detected earlier, and better treatments and follow up are improving survival. Research into the wellbeing of cancer survivors, however, is currently scarce. This area of work is particularly problematic because of the differences in the health of cancer survivors at various stages, the many types of cancers and the effects of conventional and other therapies used.

There is emerging evidence that regular physical activity, a healthy balanced diet and weight management may help prevent recurrence of some cancers and improve quality of life following treatment. WCRF/AICR's 2007 Expert Report presents the results of a systematic literature review in this complex area. Seventy-six studies, mainly randomised controlled trials,

were reviewed. In general, the evidence varied in quality and tended to be difficult to interpret, highlighting the need for further research. Overall, the Report concluded that there is insufficient data to make any specific recommendations about diet or the use of supplements in cancer survivors; in fact, it states that high-dose supplements may be harmful. It recommends that all cancer survivors should receive nutritional care from an appropriately trained professional and, if able to do so, should follow the Recommendations for diet, healthy weight and physical activity [1].

The available evidence suggests that regular physical activity and weight management measures may help to prevent recurrence of breast cancer, and, in addition to a healthy diet, would contribute to overall good health and quality of life.

References

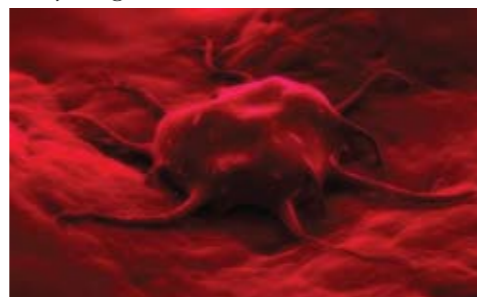
1. World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007

Fat and cancer

Excess body fat (both obesity and overweight) has now been linked to six specific cancers – those of the oesophagus, pancreas, colorectum, breast, endometrium and kidney [1], and is considered to be the most important avoidable cause of cancer after smoking. Although the science behind the link between being overweight and the development of cancer is not entirely clear, some of the mechanisms are well understood and are outlined below.

The cancer process

The complex journey from a single cell to a malignant tumour may take decades. The process is triggered by a combination of factors, which result in damage to a cell's DNA and affect the function of genes that control the normal cell cycle. If the body's innate repair mechanisms fail, then the damaged cell can eventually multiply uncontrollably, resulting in cancer. The factors that contribute to this process are either exogenous (environmental) agents, such as tobacco smoke or radiation, or the result of endogenous factors (either inherited or acquired) such as excess body weight.



What role does fat play?

Fat cells are commonly assumed to play a passive role and are often seen simply as a store for energy. In fact there is now plenty of evidence that fat is a metabolically active tissue, and that excess fat in the body can encourage the development of cancer. The role of fat can be explained under three headings: hormones and growth factors; sex steroid hormones; and chronic inflammation:

- Hormones and growth factors – obesity and, in particular, excess abdominal fat can lead to the condition 'insulin resistance'. In an insulin-resistant person, the body does not respond to normal levels of insulin. As a result, the pancreas compensates and produces extra insulin leading to higher than normal levels. Insulin can act as a growth factor for tumour cell proliferation and is known to be associated with cancers of the colon and endometrium, and possibly

pancreas and kidney. Another group of chemicals, insulin-like growth factors (IGF), which are overproduced by the liver in insulin resistance, can also increase cancer cell proliferation, and may help to prevent cancer cells from dying. Leptin is another hormone produced by fat cells that can stimulate the multiplication of pre-malignant and malignant cells; this hormone has been linked to cancers of the colorectum and prostate.

- Sex steroid hormones – long-term exposure to particular hormones increases the risk of certain cancers. For example, the sex hormone oestrogen raises the risk of breast, ovarian and endometrial cancer in women.



Fat tissue is the main site of oestrogen production in men and postmenopausal women. In addition, the raised insulin and IGF levels that accompany body fatness (as explained above) result in increased oestrogen, and possibly higher testosterone levels in women.

- Chronic inflammation – an obese person has a constant low-grade chronic inflammatory process occurring in their body. Long-term inflammation in any tissue can encourage cancer development as it damages the DNA in cells, increases cell proliferation, prevents natural cell death and encourages the growth of new blood supply. Chronically inflamed tissue contains a variety of inflammatory cells that produce chemicals such as cytokines and growth factors. In addition, a large number of the cells in an obese person's fat tissue are macrophages – phagocytic white cells that produce a large number of pro-inflammatory chemicals. As well as playing an important role in the immune system, they can be attracted to cancer cells and may help them proliferate.

Obesity is already strongly linked to other serious diseases such as diabetes, hypertension and heart disease. The steadily increasing evidence of the links to many cancers further highlights the need for urgent action to address the escalating obesity epidemic.

References

1. World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007

Screening for alcohol use

The evidence linking alcohol to cancer has become stronger over the last decade and is now linked to six specific cancer sites. For cancer prevention, WCRF UK recommends we limit our alcohol intake to 2 drinks a day for men and one for women [1]. With 89 per cent of the UK adult population regularly drinking alcohol, and many exceeding the healthy limits, an appropriate health promotion tool may come in useful with patients.

The CAGE assessment tool

It can be difficult to assess whether a patient/client is drinking too much, often because of an unwillingness to admit it directly. Research has shown that opportunistic screening and a brief intervention can be highly effective in people who are *not* alcohol-dependent but who are drinking heavily [2]. The CAGE assessment is a simple but effective tool that can help health professionals confirm suspected alcohol-related problems in their patients or clients.

The tool is not a structured questionnaire – in fact, the questions can be interwoven into the general conversation. Two or more of the following answered in the affirmative suggests there may be a problem:

- Have you ever felt you should **C**ut down on your drinking?
- Have people **A**nnoyed you by criticising your drinking?
- Have you ever felt bad or **G**uilty about your drinking?

- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (**E**ye-opener)?



Using a brief intervention

A brief intervention is a strategy, lasting 10 to 60 minutes, in which structured advice is given to help people stop, or reduce, their use of alcohol. There are several key points to communicate to the client in what may be a very short period of time [3]. These include an outline of personal risk (for example, alcohol worsens existing high blood pressure), stressing that the person must take responsibility for changes, advice on how to reduce drinking (written information can be given to back up verbal advice), and any suggested strategies such as pacing drinking and setting limits. Finally, the practitioner will have best results if he or she is empathetic and encouraging, sets goals together with the client and follows up on progress.

References

1. World Cancer Research Fund / American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. Washington DC: AICR, 2007
2. Berholet N, Doepfer J-B, Wietlisbach V, Fleming M, Burnard B. *Reduction of Alcohol Consumption by Brief Alcohol Intervention in Primary Care*. Arch. Intern Med 2005; 165: 986-995
3. Miller W. R., & Sanchez V. C. (1994). *Motivating young adults for treatment and lifestyle change*. In G. Howard (Ed.), *Issues in Alcohol Use and Misuse by Young Adults* (pp. 55-82). Notre Dame, IN: University of Notre Dame Press

A balancing act

With the incidence of obesity rising and levels of fitness falling across the UK, PCTs and councils are coming up with community-based schemes to help people improve their health. One such venture is Gateshead's 'Balance It! It's Your Health' programme – a joint initiative between Gateshead PCT, Gateshead Council and Gateshead Health NHS Foundation Trust. The scheme was devised in response to a research report that identified particular areas of socio-economic deprivation and high levels of ill health in Gateshead, and aims to encourage people to become more physically active and to lose weight.

The 26-week programme is open to residents who are motivated to change and who have a BMI of greater than 25. A referral can be made either by a health professional or by the individuals themselves and everyone undergoes an initial assessment to judge their suitability for the programme.

Weekly sessions of two hours include practical cooking skills, healthy eating education and physical activities to suit a range of abilities, including line dancing and archery. All the sessions are held in community venues ensuring that participants have easy access. The programme is based on partnership working at all levels and the broad mix of clinicians involved ensures that a range of knowledge and expertise is available to participants, who can also receive one-to-one support and individualised advice.

The programme has been running for less than a year, but is being closely monitored and evaluated, assisted by researchers from Northumbria University who have carried out interviews with a sample of participants and steering group members. The results of this qualitative research will influence the future of the programme.

For further information about 'Balance It! It's Your Health' contact Emma.Gibson@sotr.nhs.uk