Response to *Draft Carbohydrates and Health Report* (SACN, 2014) from Dietitians in Obesity Management UK (domUK), a specialist group of the British Dietetic Association.

The *Draft Carbohydrates and Health Report* (*SACN, 2014*) is currently out for consultation. The report provides much food for thought. Concentrating on cardio-metabolic and colo-rectal outcomes as well as oral health, systematic reviews were commissioned in each of these areas, and a rigorous approach to evaluating the evidence was used (*SACN, 2012*).

The recommendations of the report, based upon their findings, are challenging. New definitions of both dietary fibre and non-milk extrinsic sugars are proposed, as well as new dietary reference values for both.

The report endorses the current national dietary recommendations, a diet based upon carbohydrates – whole grains, pulses, starches, potatoes, fruit and vegetables – but limiting foods and drinks with added sugars (cakes, pastries, biscuits and confectionery, drinks, preserves and sweet spreads and fruit juice). In line with previous recommendations, a population average total carbohydrate intake of 50% of total energy intake (TEI), is endorsed. So what is different?

Free sugars

It is proposed that a new definition is used in place of non milk extrinsic sugars (NMES), that of 'free sugars'. These are defined as mono and di-saccharides added to foods (by consumer, cook or manufacturer), plus those sugars that are naturally present in honey, syrup and unsweetened fruit juices. Lactose when present naturally in milk and milk products would be excluded from this definition (*SACN, 2014*).

A systematic review, using both randomised controlled trials and prospective cohort trials, showed no association between sugars, sugar-sweetened beverages (SSB), sugar sweetened foods (SSF) and incidence of colorectal cancer, and insufficient evidence with relation to cardiovascular disease endpoints. A higher intake of SSB, but not intake of total or individual sugars, was associated with increased risk of type 2 diabetes mellitus. In children and adolescents, higher intakes of SSB, SSF and sugars were associated with increased risk of dental caries to both the primary and permanent dentition, as was higher frequency of consumption. Evidence from randomised controlled trials suggests that increased dietary intake of sugars is associated with a linear increase in energy intake, and in children and adolescents increased consumption of SSB compared with non-caloric sweetened beverages results in weight gain and increased BMI. It appears that there is incomplete compensation for the additional energy supplied by sugars by voluntary reduction in intake of other foods and drinks.

In light of this, the report recommends an individual DRV of 10% of TEI for free sugars, but a challenging population average intake of 5% TEI (in order that the target for individuals is met). Both the proposed change in definition from NMES to free sugars, and the change in DRV, mean that the current intakes of free sugars in

all groups are at least double the new DRV, and three times the DRV in the 11-18 year age group.

The report suggests that SSB intake in both adults and children should also be minimised; currently SSB (including squashes, cordials, energy drinks and fizzy drinks) provide 30% of NMES intake in the 11-18 year old age group and 16% in younger children and adults.

Dietary fibre

A new definition of dietary fibre is proposed comprising all naturally integrated carbohydrate components of foods, which are neither digested nor absorbed in the small intestine and have a degree of polymerisation of 3 or more monomeric units plus lignin. A unified approach to measuring dietary fibre content is also proposed (*SACN, 2014*). Systematic review suggests that diets rich in dietary fibre are associated with reduced risk of cardiovascular disease, coronary events, type 2 diabetes mellitus and colo-rectal cancer, and that as dietary fibre intake is increased, a greater reduction in risk can be seen. Beneficial effects of wholegrain and cereal consumption were also demonstrated but no effect of dietary fibre on body weight was seen. Dietary fibre, wheat fibre and other cereal fibres were shown to increase faecal mass and reduce transit time, promoting good colo-rectal function.

In view of these findings, the report proposes an increase in the DRV for dietary fibre from the current 18 g/day for adults, to 30 g/day. Current intakes of dietary fibre using the new proposed definition, equate to intakes of 23-24 g/day, so an increased intake will be required in all age groups in order to achieve the new recommendation. For children, age-appropriate recommendations are made for those over the age of 2 years; no recommendations for those under the age of 2 years are made, but a diet containing increasing amounts of whole grains, pulses, fruits and vegetables should be encouraged.

What does this mean?

The recommendations do not alter our current dietary advice, but the proposals underline starkly the extent to which diets will need to change across the population in order to meet them. It seems clear that a ‘small changes’ approach alone will not be sufficient, given the generally slow rate of dietary change. Despite years of public health messages encouraging more activity and greater consumption of fruit and vegetables, the pace of change has been slow and a large proportion of the population still fail to achieve either an intake of at least 5 a day or the recommended levels of activity (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310997/NDNS_Y1_to_4_UK_report_Executive_summary.pdf). This is unsurprising given the extent of the environmental temptation surrounding us. We agree with the recommendations but have concerns about how they can be met by enough of the population to confer public health benefits.

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It is widely accepted that 'knowing' and 'doing' are not the same and that telling people what to do does not necessarily bring about constructive change (*Rollnick et al, 2008*). Something more than education and knowledge is needed, although both are important in helping people understand why change is necessary.

The current approach is one of personal responsibility linked to voluntary action by food manufacturers and retailers through the Public Health Responsibility Deal (https://responsibilitydeal.dh.gov.uk/pledges/), and is viewed with skepticism by some (https://www.rcplondon.ac.uk/policy/responding-nhs-reform/public-health-responsibility-deal). While food manufacturers and retailers undoubtedly have an important role to play, it is unclear to what extent voluntary action will bring about concrete sustained change at the level required, and in the key target groups.

It is estimated that we all make about 200 food-related decisions daily and the majority of these are made without conscious thought (*Wansink, 2010*). Given this it is evident that the nutritional environment must be an important factor affecting the outcomes of those decisions. We do not make choices in a vacuum, and if we are surrounded by unhealthy food and drink options, which are heavily marketed and advertised, then it is unsurprising that current diets do not meet recommendations for many nutrients (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310997/NDNS_Y1_to_4_UK_report_Executive_summary.pdf).

Our overall dietary recommendations will not change as a result of this report; but we now have a stronger evidence base from which to make them. The more challenging recommendations for reduced intake of free sugars and increased intake of dietary fibre, underline the importance of establishing healthy nutritional intakes throughout the life-course. This starts with childhood, establishing appropriate weaning and discouraging consumption of sweetened drinks in particular. We have an innate liking for sweet tastes (*Cooke, 2004*), which can be further enhanced by offering sweetened foods or drinks to children. Encouraging the consumption of water or milk by children instead of juices or squashes, will help to improve their diets without encouraging their innate preference for sweetness. Repeated exposure to unfamiliar foods (and presumably drinks) encourages their acceptance by children (*Birch, 1999; Cooke, 2004; Cooke, 2007*), but encouraging healthy food and drink options in an environment where so many unhealthy ones are available is difficult.

Tools at both local and national levels must be used. The move of Public Health into local authorities provides them with a strong mandate and the power to make decisions that can have a lasting impact. Using their powers related to planning, procurement and provision will help to ensure healthy diets and an active lifestyle are possible for all.

Nationally, more stringent regulations on advertising and marketing particularly to children and young people, as well as taxes, need to be examined as options,

regardless of political persuasion. It is clear that current approaches are not sufficient. Given that higher intake of sugar and lower intake of fibre are associated with deprivation (*SACN, 2014*), this is not just a public health issue, but one of social inequalities which may worsen in the absence of decisive and successful action.

The *'Chuck the Junk'* campaign, a joint domUK and Children's Food Campaign initiative, aims to stop the practice of marketing unhealthy food and drink options particularly at child height in food and non-food retail checkouts. It encourages consumers to highlight good as well as poor practice in local retailers (http://www.sustainweb.org/childrensfoodcampaign/chuck_junk/). The budget supermarket chain LIDL has responded by unveiling healthy checkouts (http://www.lidl.co.uk/en/5028.htm), and Tesco has also recently announced a similar intention (http://www.tescoplc.com/index.asp?pageid=17&newsid=978).

This is encouraging, but not sufficient. Inclusion of healthy checkouts in the Responsibility Deal and sign-up and action by all major retailers would change the environment at least at checkouts, where impulsive purchases are often made.

Summary

We support the SACN report, and welcome both the proposed definitions and the new recommendations on intake. We are eager to see how the new recommendations may be met. In our view this will require a radical change in thinking and decisive action to alter the nutritional environment, such that healthy choices become the norm.

Dr Hilda Mulrooney,

On behalf of Dietitians in Obesity Management UK (domUK), a specialist group of the British Dietetic Association. August 2014.

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