



BIRCHAM DYSON BELL

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Your Ref

Our Ref

HEF/MAS/167254.0003

Date

19 July 2018

Dear Sirs

SACN statement on diet, cognitive impairment and dementia

We act for the British Association for Nutrition and Lifestyle Medicine (**BANT**), a professional body for Registered Nutrition Practitioners.

BANT has deep concerns regarding the accuracy and credibility of a position statement produced by the Scientific Advisory Committee on Nutrition (**SACN**) on diet, cognitive impairment and dementias, which was published on PHE's website on 28 February 2018 (the **Statement**). We write to set out those concerns, and to request that PHE withdraws the Statement from its website.

The Statement

The Statement purports to "provide an overview of the currently available evidence on nutrition and cognitive impairment and dementias in adults", by considering "evidence assessing the possible relationship between dietary patterns and individual nutrients and various forms of cognitive impairment and dementias, including Alzheimer's disease" [1.1-2].

The Statement concludes that "the reviewed literature suggests that adherence to a Mediterranean dietary pattern is associated with a reduced risk of mild cognitive impairment and dementias, including Alzheimer's disease" albeit that "further evidence is required to establish whether this association signifies a protective effect of a Mediterranean dietary pattern, or of specific dietary components of such a pattern".

As to the definition of a "Mediterranean diet", the Statement says that "while there is no single Mediterranean diet, the dietary components that are characteristic of Mediterranean dietary patterns broadly align with current UK healthy eating recommendations as depicted in the Eatwell Guide (PHE, 2016). However, there are currently no studies which provide evidence specifically on UK healthy eating recommendations and cognition."

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In short, the Statement suggests that adherence to the Eatwell Guide (as an approximation of a Mediterranean diet) is likely to reduce the risk of mild cognitive impairment and dementias. No further consideration is given to the extent to which the recommendations of the Eatwell Guide differ from the Mediterranean diets which form the basis of the analysed studies. BANT considers this a significant flaw.

Issues with the Statement's analysis

The Statement's discussion of the aetiology of Alzheimer's disease centres on a 1991 paper by Hardy and Allsop, *Amyloid deposition as the central event in the aetiology of Alzheimer's disease*. The Statement simply contends that "*the aetiology of AD is unclear; however, key pathological processes appear to be the deposition of abnormal amyloid in the central nervous system*" [2.13].

The status of diabetes as a risk factor for dementia is acknowledged only in passing [2.28; A1.11]. Annex 1 of the Statement refers to Cooper et al (2015) and acknowledges that "*for diabetes a pooled analysis of 7 studies showed a significant association*" with dementia [A1.6]. There is, however, no discussion of causality, no analysis of diabetes as a mechanism in the aetiology of Alzheimer's dementia, and no consideration of the relevance of the issue to the dietary advice being proposed. Not a single keyword relating to hyperinsulinemia, insulin resistance and/or type 2 diabetes was included in the search strategy [Annex 3].

Given the body of evidence in support of a link between diabetes and dementia which has amassed since 1991, this is an astonishing omission. The increased risk of dementia (in particular vascular dementia) in patients with diabetes has been reported repeatedly in longitudinal studies – for example:

- In Leibson et al (1997), a population-based historical cohort study followed 1,455 subjects with adult onset diabetes mellitus and found a significantly increased risk of all dementias.
- In Ott et al (1999) a prospective population-based cohort study among 6,370 elderly subjects concluded that "*the almost doubled risk of dementia in diabetic patients implies that diabetes may play a role in the pathogenesis of dementia in a considerable proportion of all dementia patients*".
- In Korf et al (2006) a neuroimaging study provided evidence that older subjects with diabetes have more vascular brain damage and neurodegenerative changes, which may be the anatomical basis for an increased risk of cognitive impairment or dementia in type 2 diabetes.
- Xu et al (2007) followed a community-based cohort of 1,173 individuals: "*We conclude that borderline diabetes is associated with increased risks of dementia and Alzheimer's disease; the risk effect is independent of the future development of diabetes. Borderline diabetes may interact with severe systolic hypertension to multiply the risk of Alzheimer's disease*".
- The link was confirmed by a systematic review of 14 longitudinal studies in 2006 (Biessels et al), which concluded that "*insulin resistance, at least in the early stages of type 2 diabetes, is associated with compensatory hyperinsulinaemia. Several studies have identified hyperinsulinaemia as a risk factor for accelerated cognitive decline and dementia*".



BANT's firm view is that no credible overview of the relationship between nutrition and cognitive impairment could deny the centrality of diabetes to current thinking on dementia aetiology (a point which was echoed by Diabetes UK in their comments on the draft Statement).

Issues with the Eatwell Guide

As set out above, the Statement endorses the Eatwell Guide on the basis that it approximates to Mediterranean diets which, according to the studies relied on, will reduce the risk of cognitive impairment and dementias. The suggestion that the Guide "*broadly approximates*" to a Mediterranean diet as understood in the studies underlying the Statement is not, however, explained, and does not bear scrutiny. The Guide is in fact aligned to the "control" diet in the Predimed study with emphasis on low-fat foods and starchy carbohydrates; reference Table 1 of Estruch R et al (2018). The Statement's endorsement of the Eatwell Guide is therefore problematic.

The Eatwell Guide (introduced in 2016) recommends dividing one's dietary energy as follows: fruit and vegetables (39%, amounting to at least 5 portions a day); starchy carbohydrates (37%, of which no more than 5% are free sugars); beans, pulses, fish, eggs, meat and other proteins (12%); dairy and alternatives (8%); oils and spreads (1%); others (3%).

The Guide differs from its predecessor, the Eatwell Plate, in which both fruit and vegetables and starchy carbohydrates were allocated 33% of dietary energy (though the 5-a-day guidance in relation to the former was the same), and free sugars were allocated up to 11%. The changes were made pursuant to SACN's July 2015 report on *Carbohydrates and Health*. That report suggested that the recommended intake of free sugars should be reduced, with their contribution towards recommended total carbohydrate intake replaced by an increased intake of starches – but only for people who are at "*a healthy BMI and in energy balance*" [S.19]. The endorsement of increased starch rather than vegetables is not supported by the results of the Food Standards Agency WholeHeart research programme (N02036), which concluded "*The present study sounds a note of caution to the specific health claims for whole grain-rich foods and cardiovascular health.*"

Nonetheless, the Eatwell Guide universalises an increased recommended intake of starchy carbohydrates which will in fact be detrimental to, at the least, anyone who does not have a healthy BMI. It cannot be said to approximate to a Mediterranean diet. In endorsing the Eatwell Guide, the Statement therefore recommends a diet which would in fact increase the risk of diabetes in individuals with a high BMI (and, the evidence suggests, would as such increase their risk of dementia).

Procedural concerns

Even were the above-mentioned advice effective, SACN is not entitled to offer it. In endorsing a specific diet, SACN went beyond its proper remit as an advisory body, as set out in its Code of Practice:

"The function of SACN is to gather and assess scientific information (risk assessment) to assist policy making or analysis (risk management). The task of policy making is the responsibility of government" [3].

As explained in SACN's May 2012 *Framework for Evaluation of Evidence that Relates Food and Nutrients to Health*:



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"Position statements generally provide commentary on the nature of the evidence base for a particular nutritional issue and reach conclusions, but do not give public health recommendations"[9].

SACN has (quite properly) refrained from endorsing specific dietary guidance in the past. It has stepped outside its proper remit in doing so on this occasion.

Next steps

In summary, BANT considers that the Statement is materially flawed on the basis that:

1. it does not represent an accurate overview of the relevant evidence base as at 2018;
2. it inaccurately characterises the Eatwell Guide as "*Mediterranean*" and therefore likely to have a positive effect on dementia prevention; and
3. SACN has exceeded its proper statutory function in endorsing the Eatwell Guide.

In light of the above, BANT therefore asks PHE to withdraw the Statement from its website, and to confirm that no policy decisions in this crucial area of public health will be based on it.

Yours faithfully

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Bircham Dyson Bell
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29th August 2018

Your reference: HEF/MAS/167254.0003

Dear Sirs,

Re: SACN position statement on diet, cognitive impairment and dementias.

I have, as head of legal affairs of Public Health England, been asked to respond to your letter of 19 July 2018 in relation to the Scientific Advisory Committee on Nutrition (SACN) position statement on diet, cognitive impairment and dementias.

SACN is an advisory committee of independent experts set up to provide scientific advice on, and risk assessment of nutrition and related health issues. Its remit on advising the UK governments is published on the SACN website¹. The committee is supported in its work by a secretariat provided by Public Health England.

The statement

The position statement on diet, cognitive impairment and dementias was prepared by SACN in line with its framework for the evaluation of evidence², as noted within the methods section of the statement. A position statement is not the same as a full risk assessment and the SACN framework expressly notes that:

“Position statements can take the form of a scoping exercise where a preliminary search of the evidence is performed to inform whether a risk assessment on a particular nutrient, dietary pattern, food or food component is required. They are not subject to public consultation and conducted when a formal risk assessment is deemed either not appropriate or not feasible. Position statements generally provide commentary on the nature of the evidence base for a particular nutritional issue and reach conclusions, but do not give public health recommendations. They can also be written in response to emerging issues which can arise from the UK or from international bodies e.g. European Food Safety Authority, World Health Organization.”

¹ www.gov.uk/government/groups/scientific-advisory-committee-on-nutrition

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/480493/SACN_Framework_for_the_Evaluation_of_Evidence.pdf

In keeping with the above, the statement on diet, cognitive impairment and dementias does not make policy recommendations but merely draws conclusions on the evidence considered and makes a number of research recommendations.

As noted in your letter, the difficulties of classifying a Mediterranean diet based on MeDi Score are highlighted in the position statement which further notes in paragraph 4.5 that the key elements of such a diet are higher intakes of vegetables, fruit, legumes, cereals and fish, higher ratio of mono- to saturated fatty acid intake, lower intake of dairy products and meat and a regular but moderate alcohol intake. Key elements of the Eatwell Guide are recommendations to

- Eat at least 5 portions of a variety of fruit and vegetables every day,
- Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates, choosing wholegrain versions where possible,
- Have some dairy or dairy alternatives (such as soya drinks), choosing lower fat and lower sugar options,
- Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily),
- Choose unsaturated oils and spreads and eat in small amounts,
- Drink 6-8 cups/glasses of fluid a day, and
- If consuming foods and drinks high in fat, salt or sugar have these less often and in small amounts

The position statement highlights that there are no studies which provide evidence specifically on the UK healthy eating recommendations and cognition thus the commentary within the position statement reflects the similarity in these patterns and provides for the consideration of translation of the evidence for a UK audience. SACN's terms of reference state that its remit includes advice on the "nutrient content of individual foods, and on diet as a whole including the definition of a balanced diet, and the nutritional status of people".

The overall summary and conclusions of the report (chapter 8) clearly summarise the evidence relating to diet, cognitive impairment and dementia and make no reference to the Eatwell Guide.

Diabetes and Alzheimer's disease

Paragraph 1.2 of the position statement on diet, cognitive impairment and dementias clearly states that it is focused on "dietary patterns and individual nutrients and various forms of cognitive impairment and dementias, including Alzheimer's disease (AD)" and paragraph 2.27 of the statement notes that diabetes is the second most important detrimental factor for the development of AD and this is potentially modifiable through diet. Diabetes is also highlighted in other sections of the report.

SACN has a public health remit and its work programme is focused on the general population. Issues around clinical management are outside SACN's remit (unless it is specifically asked to undertake a piece of work in that field). Therefore, the evidence cited above in relation to a population with type 2 diabetes would be outside SACN's remit and excluded from any search.

The SACN drafting group is obviously fully aware of the evidence that diabetes may be an independent risk factor for the development of Alzheimer's disease as well as other dementias.

However, paragraphs 2.26 to 2.30 (non dietary factors affecting risk) focuses on the fundamental pathological changes in Alzheimer's disease and is not intended to provide a comprehensive review of risk factors. The drafting is therefore based on informed editorial decisions rather than an "astonishing omission".

You state that your points here were echoed by Diabetes UK. I note, however, that their overall comments were "very minor and largely raising questions for possible consideration". These issues were considered by SACN and the drafting group decided that no change was required.

Issues with the Eatwell Guide

PHE does not agree that the SACN position statement on diet, cognitive impairment and dementia can be construed as an endorsement of the Eatwell Guide. As noted above, the position statement provides commentary on the dietary patterns within the evidence base (a Mediterranean dietary pattern) and reflects on similarities to the UK dietary recommendations (the Eatwell Guide). The Eatwell Guide is a policy tool reflecting the evidence considerations from SACN reports on diet and health.

The SACN report on carbohydrate and health concludes that:

- The hypothesis that diets higher in total carbohydrate cause weight gain is not supported by evidence from randomised controlled trials.
- There is no association between total carbohydrate intake and the incidence of type 2 diabetes mellitus.
- Randomised controlled trials in which carbohydrate intake is varied by reciprocally varying fat type and quantity and/or protein intake, indicate no significant effect of carbohydrate intake or risk factors for type 2 diabetes mellitus.
- There is some evidence that an energy-restricted, higher carbohydrate, lower fat diet may be an effective strategy for reducing body weight and body mass index (BMI).
- There is no evidence of an association between starch or refined grain intake and type 2 diabetes mellitus or cardiovascular disease. The evidence on starch intake and weight gain was insufficient to draw conclusions.
- Randomised controlled trials indicated that increasing sugar intake increases energy intake. In addition, there is some evidence from trials in children and adolescents to show that sugar-sweetened beverages are linked to weight gain. There is consistent evidence from prospective cohort studies that the consumption of sugars is associated with increased risk of dental caries and intake of sugars-sweetened beverages are associated with an increased risk of type 2 diabetes mellitus.

Eating a diet consistent with government dietary recommendations as visually depicted in the Eatwell Guide, at an appropriate energy intake that achieves or maintains a healthy weight would be associated with reduced risk of heart disease, diabetes and some cancers.

Summary

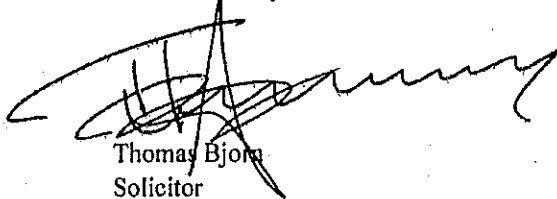
It is, as set out above, important to note that PHE's role is to provide the secretarial function for a committee of independent experts and that PHE, in this capacity, publishes the committee's advice to the UK Government.

On this background and in light of the assessment PHE has undertaken following the receipt of your letter it is PHE's conclusion that:

- The position statement considers the relevant evidence within the inclusion criteria stated for this work and draws its conclusions on the basis hereof. While diabetes as a pertinent factor for the development of Alzheimer's disease is highlighted in the text, considerations about fundamental risk factors and clinical conditions were outside SACN's remit for this work. SACN has therefore fulfilled its remit in publishing the position statement in line with its code of practice and its framework for the evaluation of evidence.
- SACN has not characterised the Eatwell Guide as "Mediterranean" but merely noted that it reflects the similarities between the UK dietary recommendations and those quoted in the evidence considered as being of a Mediterranean pattern. This commentary to aid the translation of the evidence for a UK audience is appropriate given that there is no single Mediterranean diet and that the evidence reflects patterns of dietary intake rather than intake of specific foods.
- The SACN position statement draws conclusions, makes research recommendations and provides commentary on the evidence in light of existing UK dietary recommendations. The statement can, however, not be read as an endorsement of the Eatwell Guide and PHE does not agree that the committee has exceeded its statutory function.
- The Eatwell Guide is a tool developed on the basis of SACN's consideration of evidence and therefore reflects SACN's advice.

PHE is prepared to discuss any of the issues raised in your letter in more detail but I can, on the basis of the available information, not agree that the statement should be "materially flawed" and PHE does therefore not intend to withdraw the SACN position statement on diet, cognitive impairment and dementias.

Yours Sincerely



Thomas Bjorn
Solicitor
Head of Legal Affairs

*Ignores insulin
resistance
& hyperinsulinaemia*



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Date

27 November 2018

Dear Sir

SACN statement on diet, cognitive impairment and dementia

We write further to your letter of 29 August 2018 regarding SACN's position statement on diet, cognitive impairment and dementias (the **Statement**).

BANT does not consider that your letter adequately addresses its concerns about the Statement. Indeed, the letter gives rise to further questions in respect of which clarification is needed, as set out below.

The Eatwell Guide

You say in your letter that *"eating a diet consistent with government dietary recommendations as visually depicted in the Eatwell Guide, at an appropriate energy intake that achieves or maintains a healthy weight would be associated with reduced risk of heart disease, diabetes and some cancers."* That suggests that the Eatwell Guide is considered inappropriate for anyone who is not at a healthy weight (which NHS figures suggest is more than 60% of the UK population).

That interpretation would be consistent with SACN's 2015 *Carbohydrates and Health* report, on which the Eatwell Guide's recommendations are based – the report states that the replacement of energy from free sugars with carbohydrate sources is only appropriate for people who are a healthy BMI and in energy balance (para. 12.25).

Could you please confirm who the Eatwell Guide is considered appropriate for?

The Statement

Your letter says that *"SACN has a public health remit and its work programme is focused on the general population...the evidence cited above in relation to a population with type 2 diabetes would be outside SACN's remit"* – that is, the 6% of the UK population with diabetes are not within the "general population" to whom SACN's conclusions in the Statement apply.

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Could you please explain who constitutes the "general population" for SACN's purposes, in particular:

- does the "general population" only include those who are in perfect health, or are people with illnesses of certain types and/or below a certain threshold of severity included?
- are overweight and obese people included?
- in light of the above, what percentage of the UK's population fall into the "general population" to whom the Statement applies?
- is the "general population" the same in all of SACN's publications?

We look forward to hearing from you.

Yours faithfully

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Bircham Dyson Bell
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BY EMAIL ONLY

6 March 2019

Your reference: HEF/MAS/167254.0003

Dear Sirs,

Re: SACN position statement on diet, cognitive impairment and dementias.

Thank you for your letter dated 27 November 2018 which was received by PHE with your email dated 30 January 2019.

PHE does not agree that the questions raised in your original letter have not been fully addressed but I can, after further discussions with my internal client provide the following additional information:

The Eatwell Guide highlights government recommendations for energy associated with a healthy weight. For those who are overweight, total energy consumption should decrease to achieve a healthy weight; however, the proportion of the overall diet that comes from each of the food groups should remain in line with the Eatwell Guide. As such, the guide is appropriate for the UK population as a whole.

This is fully in line with the passage quoted in your letter, cf. the words "at an appropriate energy intake" and it is therefore not correct when you conclude that the passage suggests that the Eatwell Guide is considered inappropriate for anyone who is not at a healthy weight.

You go on to quote from 12.25 of SACN's 2015 Carbohydrates and Health report that "the report states that the replacement of energy from free sugars with carbohydrate sources is only appropriate for people who are a healthy BMI and in energy balance". The full paragraph is considerably longer but you have, in particular, omitted that the sentence refers to the 'complete replacement' of energy from free sugars and that it is stated that "In those who are overweight, the reduction of free sugars would be part of a strategy to decrease energy intake" which again indicates that those with a higher BMI are not excluded.

On this background, I can confirm that the "general population" means the entire population and that the documents in question apply to everybody but that they do not address the treatment of specific diseases. Recommendations and advice on the treatment of diseases are under the remit of other organisations, such as the National Institute for Health and Care Excellence. Individuals who require

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dietary advice to support the treatment of disease should consult their GP, clinician or registered dietitian, as appropriate.

For further information, I suggest that you visit SACN's Code of Practice at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/524718/SACN Code of Practice.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/524718/SACN_Code_of_Practice.pdf) and SACN's Framework for Evaluation at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/480493/SACN Framework for the Evaluation of Evidence.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/480493/SACN_Framework_for_the_Evaluation_of_Evidence.pdf).

I hope this answers your questions.

Yours faithfully

Handwritten signature of Thomas Bjorn, consisting of a stylized 'TB' followed by a large, sweeping flourish.

Thomas Bjorn
Solicitor
Head of Legal Affairs