



August 29, 2014

SACN Secretariat
Public Health England
4th Floor Wellington House
133-135 Waterloo Road
London SE1 8UG

Re: Draft Carbohydrates and Health report

Dear SACN Secretariat:

The Calorie Control Council ("the Council") is responding to the June 26, 2014 notice regarding the Scientific Advisory Committee on Nutrition (SACN) draft report on carbohydrates and health. The Council is an international association of manufacturers of non-nutritive, sugar-free, and "light" foods and beverages, including companies that make alternative sweeteners (e.g., intense sweeteners, polyols) and dietary fibers. Our members make a wide array of low- and reduced-energy products, and are leaders in the marketplace.

We appreciate the opportunity to comment on this draft consultation document and offer the following comments to be considered as the report is finalized. Our specific comments on several sections of the report follow.

Polyols

We agree with the finding in the SACN draft guidance that there is evidence that the use of products with polyols ("sugar alcohols") can be beneficial in the prevention of dental caries. We also agree that the use of chewing gum containing polyols in comparison with not using a chewing gum is beneficial to oral health.

We noticed some inaccuracies in the draft report that we would like to bring to your attention. Table 2.1 of the draft report (page 10) includes an error from the 1998 Food and Agriculture Organization/World Health Organization (FAO/WHO) report,¹ and presents the "polyols"/"sugar alcohols" under "sugars". This error was corrected in the 2003 FAO recommendation,² which stated:

- (1) *"The term 'sugar alcohol' should be phased out of food labelling and replaced with 'polyol'.*
- (2) *Polyols should be recognized as carbohydrates, but not sugars".*

Thus, we recommend Table 2.1 be amended to show polyols as a separate entry.

Additionally, as noted in the 2003 recommendation from the FAO/WHO, the term "sugar alcohol" should be phased out and replaced with "polyol."² Therefore, we recommend that the draft consultation report be amended to replace each mention of "sugar alcohol" with "polyol."

Classification of Carbohydrates

We would like to note that polyols do not always have a degree of polymerization (DP) of 1-2 and can have a DP>2, as exemplified by polyglycitol and maltitol syrups. We therefore recommended that polyols be listed as DP≥1.

Based on the above comments, we recommend the following amendments to Table 2.1. (The suggested changes are highlighted.)

Table 2.1 Chemical classification of carbohydrates (FAO/WHO, 1998) with modification to acknowledge recommendations in FAO/WHO (2003)		
Class	Sub-group	Components
Sugars (DP 1-2)	Monosaccharides Disaccharides Sugar alcohols/polyols	Glucose, galactose, fructose Sucrose, lactose, maltose Sorbitol, mannitol
Polyols (DP ≥1)	Monosaccharide alcohols Disaccharide alcohols Oligosaccharide alcohols	Erythritol, xylitol, sorbitol/sorbitol syrup, isomalt, isomaltulose, lactitol, maltitol/maltitol syrup, mannitol Polyglycitol/polyglycitol syrup
Oligosaccharides (DP 3-9)	Malto-oligosaccharides Non-digestible oligosaccharides	Maltodextrins Raffinose, stachyose, fructo-oligosaccharides
Polysaccharides (DP >9)	Starch Non-starch polysaccharides	Amylose, amylopectin, modified starches Cellulose, hemicellulose, pectins, hydrocolloids (gums)

We would also like to note that classification of polydextrose as ‘Sugars, sugar alcohols, sugars-sweetened foods and beverages’ (draft report Chapter 6 (page 82)) is incorrect. Polydextrose is a randomly linked glucose polymer that is non-sweet, resists digestion in the upper gastrointestinal tract eliciting a negligible glycaemic and insulinemic response and is partially fermented by the colonic microflora. To classify it with sugars or sugar alcohols is wholly inappropriate. It should be classified under either dietary fibre (Chapter 8) or added to Chapter 9.

Fibre

We support the inclusion of fibres with three or more degrees of polymerization in the SACN proposed dietary fiber definition of “all carbohydrates that are naturally integrated components of foods and that are neither digested nor absorbed in the small intestine and has a degree of polymerisation of three or more monomeric units, plus lignin.” Restricting the fibre definition to “naturally integrated components of foods,” however, is not consistent with most other dietary fibre definitions such as those of Codex,³ the European Union,⁴ Food Standards Australia New Zealand (FSANZ),⁵ Health Canada,⁶ the Institute of Medicine (IoM),⁷ and the recent United States Food and Drug Administration (FDA) proposal.⁸ It is further problematic that the proposed definition does not align with that of the European Union (EU), as the EU’s definition is the one on which the food labelling regulations are based.

Additionally, restricting the fibre definition to “naturally integrated components” would exclude extrinsic fibres with demonstrated physiological benefits. The draft guidance notes that there are physiological beneficial effects for the following fibres although these would seem to fall outside the proposed dietary fibre definition: non-digestible oligosaccharides and faecal weight (Section 9.23), fructo-oligosaccharides (Sections 9.26 - 9.27) and faecal bacteria, galacto-oligosaccharides (GOS) (Sections 9.28 – 9.29) and faecal bacteria, resistant starch and faecal weight (Sections 9.38 – 9.42), and oat bran and isolated β -glucan (Section 12.17).) The EU definition of dietary fibre includes physiological benefits such as colonic fermentation, which is omitted from SACN's proposed definition. The EU has also authorized a health claim for polydextrose that points to the reduction of postprandial glycemic index when it is used in place of sugar. There is substantial scientific agreement that colonic fermentation and attenuation of postprandial glycemia/insulinemia are physiologic benefits of fibre as evidenced by the scientific consensus at the 9th Vahouny conference.⁹

Most dietary fibre definitions focus on the physiological benefits of the fibres, not whether they are intrinsic or extrinsic to a food. Likewise there are no analytical methods available that can differentiate between intrinsic and extrinsic fibers. Because all dietary fibres with one or more demonstrated physiological benefits can be of value, we believe the focus should be on total dietary fiber intake rather than the origin of the fiber.

Sugars

The report does not provide a differentiation of sugars on the basis of their metabolic fate and physiological response. Certain sugars such as fructose and isomaltulose strongly differ from sucrose because of differences in their digestion and absorption properties, although they are fully caloric. These differences have implications for health, which is reflected in the European Union (EU) register on nutrition and health claims. For example, products with sugar replacers (xylitol, sorbitol, mannitol, maltitol, lactitol, isomalt, erythritol, sucralose and polydextrose; D-tagatose and isomaltulose) are permitted to make the claim that “Consumption of foods/drinks containing <name of sugar replacer> instead of sugar contributes to the maintenance of tooth mineralization.”¹⁰ Furthermore, both fructose and isomaltulose have a beneficial effect on post-prandial glycemic/insulin response. Isomaltulose provides a slow, but steady glucose supply and provokes a much lower insulin response compared to sucrose.¹¹ For fructose, an EU-authorized health claim affirms that “consumption of foods containing fructose leads to a lower blood glucose rise compared to foods containing sucrose or glucose.” Additionally, there are certain ketohexose sugars like allulose (psicose) which do not provide calories or raise blood sugar levels because they are not digested or metabolised like traditional sugars. As the report aims to evaluate the health effects of carbohydrates as a basis for public health policy, a chemical classification alone is not sufficient and a differentiation between sugars should be made on the basis of their physiological effects.

Postprandial glycaemic response

In the draft report, postprandial glycaemic response is not evaluated as a beneficial physiological effect *per se*. However, guidance by the European Food Safety Authority (EFSA) *does* include reduced postprandial glycaemic response as a health effect and as a potential basis for a health claim to be used to inform consumers.¹² This has led to several new entries in the EU register on nutrition and health claims so far.¹⁰ For example, the authorised claim for sugar replacers (i.e., intense sweeteners; xylitol, sorbitol, mannitol, maltitol, lactitol, isomalt, erythritol, sucralose; polydextrose, D-tagatose and isomaltulose) is: “Consumption of foods/drinks containing <name of the sugar replacer> instead of sugar induces a lower blood glucose rise after their consumption compared to sugar-containing foods/drinks. Additional dossiers are still in the process of evaluation by EFSA or the Commission, and typical wording of a claim is as follows: “Consumption of [name and origin of ingredient] as part of / with a meal

contributes to a reduction of the blood glucose rise after that meal.” Thus, we recommend the report be amended to include this important category.

The Council appreciates the opportunity to provide comment on this impactful guidance, and we hope that you find our comments to be helpful. Due to the extensive report and short review period, we were not able to comment on all aspects of the report. If you have any questions regarding our comments, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Haley Stevens". The signature is written in a cursive, flowing style.

Haley Curtis Stevens, Ph.D.
President
Calorie Control Council

References

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