Reviewer's report

Title: Review of the nutritional benefits and risks related to intense sweeteners

Version: 1 Date: 20 April 2015

Reviewer: Simon Thornley

Reviewer's report:

This is a very timely and interesting article, since, with growing interest in the health effects of sucrose and fructose intake increasing, attention turns to whether intense, low energy, sweeteners may be endorsed or promoted as a public health intervention.

Major compulsory revisions.

Although a lot of material is presented and described, I felt that it could be better organised. I felt that meta-analysis results were often interpreted or labelled inconclusive without giving the reader an overview of the criteria used to select studies, what the comparison groups are, and what the pooled effect was, if one was reported. I would favour that major meta-analyses or trials referred to in the text be summarised in table form, enabling the reader to determine what (1) what was the population under study, (2) what was the nature of the studies included (observational or RCT), (3) the nature of the comparison (eg. dose or dietary intake, which sweetener or sweeteners?), and (4) the magnitude of the effect & (5) an assessment of whether or not there is between study heterogeneity (for meta-analyses only). I believe this would help the reader assess the nature and consistency of the evidence (or lack of it) in a more concise and accurate way.

The authors also conclude in several sections that there is 'insufficient evidence' to determine whether there is adverse or beneficial effects of IS on various health outcomes. It would be helpful if the authors stated what their criteria are for determining whether there is 'sufficient evidence' for adverse or beneficial effects. It seems that one can always say 'there is insufficient evidence', but without addressing what would be needed for the authors to be convinced, it seems hard to interpret these statements.

In some statements relating to measures of effect, it is not made clear what two groups the effect measure is comparing.

Minor Essential Revisions

In the section of "effects on body weight and composition", there is a reference that appears incomplete ("and several original articles (ref ...)").

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests