Reviewer’s report

Title: A reappraisal of the quantitative relationship between sugar intake and dental caries; the need for new criteria for developing goals for sugar intake.

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Reviewer: John Cummings

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A reappraisal of the quantitative relationship between sugar intake and dental caries; the need for new criteria for developing goals for sugar intake.

General comments.

In the light of the recent proposal by WHO/NUGAG to recommend a 5% limit on sugars intake to reduce the prevalence of caries, this is a valuable contribution to an important current debate on factors that should determine sugars intake.

The paper is primarily a re-analysis of the early Japanese data on sugars intake and caries in children. The authors show that caries is mainly a disease of adults, is more common worldwide than probably any other chronic illness for which there are significant costs and that the apparent safety threshold of 10% of energy should no longer apply.

There are important comments on the global burden of caries and its economic consequences.

General comments:

1. Please explain what is meant by the term “sugars” and especially terms such as “non-milk extrinsic sugars” (l.97 and l. 279). The US has a definition for "added" sugars that differs from the WHO definition of "free" sugars. What is important for caries?

2. Are sucrose and fructose treated equally in the dental caries story?

Specific comments.

1. L 97. What do national data on sugars intake really measure? Is it just industrial amounts of sugar imported? Or does it take account of sugar naturally present in the diet, such as dried fruit in cereals etc.

2. L195/196. It might be worthwhile pointing out that it is not possible to separate the frequency of sugars consumption from the daily amount in epidemiological studies.

3. There are no legends, and references, for the figures