Letters to the Editor

Question about a recent meta-analysis of low-calorie sweeteners and body weight

Dear Editor:

We read with interest the article by Miller and Perez (1), which is a meta-analysis of randomized controlled trials (RCTs) and prospective cohort studies on the relation between low-calorie sweeteners (LCSs) and body weight and composition. The authors included 15 RCTs and 9 prospective cohort studies that examined LCSs from foods or beverages or LCSs consumed as tabletop sweeteners.

We are concerned about the inadequate search strategy and missing key publications in their meta-analysis. The authors used a combination of MeSH and relevant free-text terms in PubMed. We were surprised that our recent publication (2) on this topic was not included. After taking a close look at the Supplemental Material, we suspected that their search terms could not capture the complete literature in this field. They included the key words inside the quotation marks, which means that only the articles with exactly the same key words will be found in PubMed. For example, they used the search term “diet beverage”; therefore, a study that used “diet beverages” throughout the article could not be found. When we tested in PubMed the search terms [“diet beverages” and “weight” and “Pan”], our recent publication (2) could be found; also when we typed [“diet beverage” and “weight” and “Pan”], our article could not be found. There were also some other small errors in the MeSH terms and free-text terms, and the authors did not search other potential databases, such as EMBASE and clinical trial registries.

Two clinical trials (3, 4) evaluated the replacement of sugar-sweetened beverages (SSBs) with plain water or artificially sweetened beverages. Therefore, the weight-loss effects may not be attributed to artificially sweetened beverages only. A sensitivity analysis should be conducted to exclude those 2 studies. Our previous analysis suggested that the replacement of plain water for SSBs was also related to significantly less weight gain (2).

The majority of the RCTs evaluated the effect of replacing SSBs by low-calorie sweetened beverages (LCSBs) on body weight. It is unclear whether the weight-loss effect was due to the reduction in SSBs or the use of LCSBs. The independent effect of LCSs (including LCSBs) on long-term weight regulation and other health outcomes remains unknown.

Taken together, SSB consumption clearly leads to weight gain and increases the risk of obesity in children and adults (5). It appears that replacing SSBs by LCSBs may be used as an option for weight control in those who regularly consume SSBs and want to lose weight. However, we should be cautious in recommending LCSBs as a routine replacement for SSBs, especially among children. Therefore, plain water or other unsweetened low-calorie beverages, such as plain tea or coffee, should be considered as healthy alternatives to SSBs.

Neither of the authors declared a conflict of interest.

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Note: The authors of the original article chose not to submit a reply.

REFERENCES
