Reviewer's report

Title: National Trends in Beverage Consumption in Children from Birth to 5 Years: Analysis of NHANES Across Three Decades

Version: 1 Date: 9 January 2012

Reviewer: Barry Popkin

Reviewer's report:

Overview: This is a well written paper. There is one major flaw which affects deeply interpretation. Over the NHANES surveys used, they shifted 3 times food composition tables. This mean one time –the most recent they used the USDA food composition table (FCT's) but use other very different food composition tables earlier. The authors need to either figure out how to link from the current measurement to earlier measurement or understand how the 3 different FCT's affect nutrient and kcal values and they did very much so. There are some other minor issues

Specifics

1. Flavored milk is not used much in the literature anymore as what we have are sugar-sweetened flavored milks. It would be very useful if they would follow the lead on a recent nutrition journal paper by Lasater that separated the milks into high sugar and high fat vs. high sugar reduced fat milks.

2. It would be useful to also follow that Lasater paper and provide a graph on milk intake patterns over time with the proportion from different sources. The school age 6-11 year old trends show both a declining proportion and large shift in proportion toward high fat high sugar milks. Figure 3 needs to be revised and include categories for the sugary beverages that are high and lower fat.

3. The funding source was the Am Dairy Council so the author needs to bend over backwards to be careful and upfront on the milk data and trends.

4. Typically we present kcal in who le units only. A tenth of a kcal is meaningless. Simplify the tables this way

5. It will be instructive to stack all the beverages together into total kcal and present the total kcal and the proportion shifts over time.

6. The authors need to cite the very important strip study that essentially shifted pediatrics societies globally toward lower fat milk recommendations for preschoolers and toddlers. (Kaitosaari, Ronnemaa et al. 2003; Kaitosaari, Ronnemaa et al. 2006) these are two of dozens of citations from this work.

7. By far the most important issue is the shift in food composition tables. This makes it hard to know what is a real change in the food supply, what is just a shift from an nci to univ of minn or usda or other FCT.


**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

none