Author's response to reviews

Title: Sugar-added beverages consumption among pre-school children of Crete: effects on nutritional status and risk of obesity

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Author's response to reviews: see over
Response to reviewers
(all changes in the manuscript have been highlighted)

1st reviewer:
1. The present study was conducted in order to evaluate the nutritional, growth and health levels of preschool children. Smoking was only one of the variables examined. Reference number 17 on page 4, describes the methodology of the whole study in great detail and that is why it is used.

2. Below the authors present the overall table regarding the analysis performed for Figure 1a. a respective analysis was performed for Figure 1b.

<table>
<thead>
<tr>
<th>Consumption</th>
<th>BMI</th>
<th>normal</th>
<th>overweight</th>
<th>obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non consumers</td>
<td>245</td>
<td>62</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Consumers 1-125 g/day</td>
<td>174</td>
<td>45</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Consumers 125-250 g/day</td>
<td>109</td>
<td>37</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Consumers &gt;250 g/day</td>
<td>65</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

The 2x2 tables that derive form the above are:

\[
OR_1 = \frac{245 \times 45}{174 \times 62}, \quad OR_2 = \frac{245 \times 45}{174 \times 32}, \quad OR_3 = \frac{245 \times 37}{109 \times 37}, \text{ etc}
\]

This shows that when controlling for the overweight consumers the reference category takes into account both non-obese and overweight non-consumers. While when controlling for obese consumers, the reference category automatically takes into account both non-obese and obese non-consumers. Therefore the reference category changes each time according to the analysis we want to do.

The authors believe that this is the answer to what the reviewers are asking. However, they believe that the legend of the reference category could have been misleading and thus the part ‘…BMI within the normal ranges’ and ‘…waist circumference below the 90th percentile’.

In case the reviewers need additional explanations the authors would be happy to do that.

3. The authors agree with the reviewer that a cross-sectional study cannot establish causal associations. For this reason the wording has changed in several places as suggested, but not in the introduction or discussion where data from other studies are being mentioned.

4. The authors made a ‘typing’ mistake on page 7. The cut-off for waist circumference for defining overweight and obese children is > 90th percentile and not <90th percentile. It has been speculated that waist circumference alone may be a more useful and more easily obtainable index in both adults and children. Therefore the authors have used the percentiles that have been developed for Cretan children (Linardakis et al.2007). In addition, waist circumference is a predictor of insulin resistance syndrome in children and adolescents and could be included in clinical practice as a simple tool to help
identify children at risk for developing metabolic syndrome (Cruz ML and Goran MI. Current Diabetes report 2004;4:53-62). In this context, slight changes have been made in page 6 in order to clarify the definition of overweight and obesity.

5. Style comments: All style comments suggested by the reviewer have been taken into account.

6. References were inserted with the Endnote programme. Small mistakes have been corrected.

7. All suggested changes in the tables have been made. Table 2 now shows next to sugar and sweets, that this food category excludes sugar coming from sugar-added beverages.

8. The figures have been changed according to the reviewer’s remark.

9. The authors welcome any improvement suggested regarding the English, and thus all suggestions made by the reviewer have been adopted.

2nd Reviewer: F.Bellisle

1. The authors agree with the reviewer that a cross-sectional study cannot establish causal associations. For this reason the wording has changed in several places as suggested, but not in the introduction or discussion where data from other studies are being mentioned. In addition the wording in the conclusion section has been changed according to the reviewer’s suggestion.

2. The questionnaire used for estimating physical activity has been used and validated by Manios et al. Pediatric Exercise Science 1998; 10:176-188. Detailed methodology and validation methods are described in this reference. This information and the reference have now been added to the manuscript.

3. The authors agree that possibly by mentioning the adults BMI cut-offs in brackets could be confusing for the reader. Therefore, those numbers have been deleted from the text hoping that it is now clearer.

4. In page 7, sugar intake does not include sugar contained in the beverages. This is now mentioned in both the text and table 2.

5. Please see reply number 2 in the other reviewer.
6. The authors agree with the reviewer that testing the hypothesis that intake of sugar-added beverages is associated with an early adiposity rebound is very interesting. Unfortunately, there are no prior measurements in this population except for the baseline measurements used in the present study and thus it is not possible to test this.