Reviewer's report

Title: Influence of two breakfast meals differing in glycemic load on satiety, hunger, and energy intake in preschool children

Version: 2 Date: 28 April 2010

Reviewer: Heather Leidy

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Influence of two breakfast meals differing in glycemic load on satiety, hunger, and energy intake in preschool children
Nutrition Journal
Research Article

The purpose of the study was to examine the effects of glycemic load on hunger, satiety, and subsequent food intake in pre-school children.

Although this study includes a very current topic (i.e., glycemic load), there are several major concerns pertaining to the experimental design and presentation of the data which make the study findings less meaningful and relevant.

Major Compulsory Revisions:

1.) The study is confounded by several issues related to the study breakfast meals: A) the energy content of the breakfast meals were different, making it difficult to truly identify the influence of glycemic load as it relates to carbohydrate quantity, quality, and glycemic index and not just the increased energy content of the meal itself; B) The make-up of the LGL breakfast meals do not coincide with what is typically included in these types of meals-specially with respect to the lower fiber content compared to the HGL breakfast; C) the more important issue with the experimental design of the breakfast meals is the fact that the participants were not required to consume the entire portion of breakfast meals provided. Thus, it is difficult to make any further conclusions with respect to the specific effects of GL at breakfast on pre-lunch appetite, satiety and intake (i.e., lack of effect at lunch may have been due to the reduced energy content consumed at breakfast outside of any effect from GL at breakfast). This approach led to a huge range in GL’s. Along these lines, there are no reasons provided as to why the participants didn’t consume the entire breakfast meal for each treatment (i.e., were questionnaires given or were the participants ask to consume the meal until feeling ‘comfortably full’, etc.

2.) The study conclusions are over-stated and are not supported by the findings.

3.) The hunger, satiety, and palatability questions asked to the pre-school children do not appear to be validated in this population. Without this step, it is very difficult to confidently state differences (or lack of differences) in these
outcomes.

3.) Because the participant procedures with respect to how the breakfast meals were consumed (i.e., I originally assumed that each meal was consumed in its entirety), I found Tables1, 2, and 4 to be somewhat confusing.

Minor Essential Revisions:

Abstract:

There is no mention that each treatment was repeated twice and the data was averaged. There is also no mentioned that the participants were not required to consume the entire breakfast meal.

The conclusions for the findings are again overstated. Unless analyzed in this manner, there is no way to know that the fat and protein in the breakfast meals were the leading contributors to the reduced hunger.

Introduction:

Since the authors define GI and GL, it would also be helpful to include dietary factors that influence these parameters (i.e., sugar content, protein, fat, fiber, etc.).

Methodology:

I would suggest moving Table 3 (which would then be re-numbered as Table 1) and the first paragraph of the results which includes the subject characteristics to the end of the first paragraph in the Methodology section. These data are not results per se.

Figure 1 is not needed. However, more detail is need with respect to the study procedures (i.e., consumption of breakfast, etc.).

Please include what the ad libitum lunch consisted of (i.e., types of food, etc.).

Line 107, these aren't 'groups' but treatments.

Remove Line 116.

Discussion:

Where are the correlational data that are referred to in Lines 156-159?

Line 189, the word 'lead' should be 'led us'.

There is much speculation included in the discussion with respect to the mechanisms of action-even though none of these were examined in this study.

Figures:

Remove Figure 1 as it is not needed.

Tables:
See previous comments.

Typo in Table 2, line 360 (delete the 'n' in nutrient')

**Level of interest:** Reject as not of sufficient priority to merit publishing in this journal

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I have no competing interests