Author's response to reviews

Title: The effect of high fiber snacks on digestive function and diet quality in a sample of school-age children

Authors:

Mary Brauchl (mbrauchl@purdue.edu)
George P McCabe (mccabe@purdue.edu)
Kevin B Miller (kevin.miller@kellogg.com)
Sibylle Kranz (kranz@purdue.edu)

Version: 2 Date: 15 October 2013

Author's response to reviews: see over
The following are the responses to the reviewer’s comments (in red):

Reviewer's report

Title: The effect of high fiber snacks on digestive function and diet quality in a sample of school-age children

Version: 1 Date: 24 August 2013

Reviewer: Claudio Maffeis

Reviewer's report:
The aim of the study was to investigate the efficacy of the introduction of two high-fiber snacks per day on the gastrointestinal function as well as nutrient and food group intake in healthy 7-11-year-old children. The study is interesting and well conducted, however, some critics may be done. In particular:

a. Subjects: recruitment criteria (exclusion, inclusion criteria) of the children were not reported, please provide these data.  
This has been added in lines 51-52.
b. Subjects. No data of physical characteristics were reported. Please, if available, provide these data.  
No physical data were collected to reduce subject burden and effort required from the study site.
c. Methods. Validity and reproducibility of food intake reported by young children (7-11-years-old) is questionable. A gross comparison with recommended energy intake suggests that the energy intake reported in Table 2 is likely underestimated. It should be interesting to have the chance of estimating energy requirement by factorial method and to compare it with energy intake. Availability of weight and height could give this chance. Moreover, the choice of combining data of one weekday and one weekend day for estimating the usual dietary intake is questionable. Much better using two weekdays and one weekend day. Please, provide the data or discuss this limits in the manuscript.  
This has been added as a limitation and discussed in the methods.
d. Methods. L67. If snacks were taken also in the control group, it is not correct to consider “additional” calories those ingested by the intervention group. Otherwise, a comparison between the snack energy intake of the two groups should be provided.  
The wording has been altered to clarify this point.
e. Results. It is curious that fiber intake at baseline was significantly higher in the intervention group than in the control group. Randomization should have adjusted for this characteristic. Please, discuss this finding.
While randomization should assure equal distribution of characteristics, this effect is not always achieved. We agree that the difference in fiber intake at baseline is curious, however, randomization occurred on the classroom level, not on the individual level – thus, shared characteristics, such as one classroom being an accelerated classroom probably substantially affected the distribution.

f. Results. The potential effect of age and gender was not explored. Please, provide data or comments.
Due to the study design, randomization by classroom, many of the children had their birthday during the duration of the study, thus, the effect of child’s age at recruitment was not maintained as the study progressed and age was not a significant confounder of snack consumption. The effect of gender on the snack selection was described in the result section.

g. Results. L 196. It is not clear if skim milk was taken also from controls or not. Please, clarify.
The clarification of this point has been added to the text. In short, no intervention (such as providing milk) was provided to the control group.

h. Results. L 209. It should be interesting to know what foods were displaced after introduction of high-fiber snacks in the diet of children. This aspect is crucial since food displacement likely reduced the intake of cereals, vegetables and fruit, i.e., fiber rich foods. This reduction potentially leads to reduction of other nutrient intake, in particular minerals and vitamins, and to changes in postprandial metabolic pathways, with consequences on both endocrine and nutrient profiles. Please provide data and/or discuss.
We agree with this comment and have added a brief statement to clarify this point.

i. Results. L 228. I will change: “certainly indicated” with: “supported”.
The wording was changed in the text accordingly.

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests