Author's response to reviews

Title: Improved Weight Management Using Genetic Information to Personalize a Calorie Controlled Diet

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Author's response to reviews: see over
September 12, 2007

To: The Nutrition Journal Editorial Team

Re: 1287506503144575 - Improved Weight Management Using Genetic Information to Personalize a Calorie Controlled Diet

Dear Sirs,

Thank you for inviting us to re-submit our manuscript for consideration for publication in the Nutrition Journal.

We have made changes to the manuscript, addressing reviewers’ comments and including additional required information. We have revised the manuscript in close conformity with the requests of the reviewers as detailed below. We believe the manuscript is considerably improved by the suggestions of the referees and we thank the referees and editor for their insightful comments.

Sincerely,

Keith Grimaldi, Ph.D.
Reviewer #1

1-Since there are hundreds of genetics markers involved in weight regulation that could be selected and the function of some of the selected SNP is not fully known, the authors should explain why these specific genes and SNPs have been selected and how they designed the specific recommendations for each mutated SNP.

The genetic polymorphisms were not chosen based on links to weight regulation or obesity. The nutrigenetic test used is intended to aid general healthy eating for all and not specifically as a tool for weight management. The following text has been added to the discussion section:

The test was not developed specifically as a weight management tool but as a means to optimize and provide a level of personalization to support general healthy eating practices. The gene variants were selected according to documented evidence of gene-diet interactions where a nutrition or exercise intervention has been demonstrated to modify the effect of the variation (see refs cited in table 3).

2- The use of a one-way analysis of variance test must be justified. Had all the variables a normal distribution? Why the authors did not use a t-student test?

No significant deviation (p>0.05) using a Kolmogorov-Smirnov test of normality was detected for any of the variables in the natural (BMI, age, weight) or log scale (insulin, glucose, lipid measurements) and this has been clarified in the text. The t-test is formally equivalent to an ANOVA comparing only two groups (as is the present case) therefore the p-value from a t-test is identical to that of an ANOVA.

3-The deviation from the Hardy-Weinberg prediction of the PPAR SNP must be discussed.

The current study carried out Hardy-Weinberg tests on 22 markers, and the probability just from Type I error of one out of 22 to show a p<0.02 is 0.44. We attribute the observation simply to type I error and have discussed this now in the text.

4-In the non-tested group, there were 16 pre-diabetic subjects, whereas in the nutrigenetics group there were 30. This difference must be discussed, since the lack of statistically significant differences in the non-tested group could be due to the low number of subjects. We agree with the reviewer that had the sample size in the non-tested group been as large as the tested group the difference in glucose levels observed at 90 days would also have achieved statistical significance in the non-tested group (assuming that the effect size remained the same). However, the effect size in the nutrigenetic group is larger than in the non-tested group (0.81 vs 0.66 standard deviations) and had the same difference been observed on only 16 individuals the power to detect it as statistically significant with p<0.05 would be 90%. Further, a significantly higher proportion of nutrigenetically tested than non-tested individuals lowered their glucose levels to <100 mg/dL. Therefore, the lower in sample size in the non-tested group alone does not explain the difference between the tested and non-tested groups.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1-There are some misprint along the manuscript (i.e.: the lack of full stop in the first paragraph of the abstract and the presence of two of them in the second paragraph). These typos have now been corrected.
2-Units of BMI (all the manuscript) and insulin levels (table 4) must be indicated. 
The units have now been added to the text and tables
3-The name of the used enzymatic kits must be completed. 
These have now been added
4-Figure 1 is not cited in the text. 
Figure 1 is now cited on page 6 and the results therein are mentioned in the text

Discretionary Revisions (which the author can choose to ignore)

General
1-The nutrigenetics test group could be called “NT group” along the manuscript. 
Because throughout the manuscript we have compared the nutrigenetic tested to the non-tested group 
we felt that the acronym NT could be confusing as it could refer to either group.
2-The time periods must be always in the same unit (days or months) 
Time periods are now consistently referred in days throughout the text, figures and tables. 
3-“Blood glucose levels” can be renamed as “blood fasting glucose levels” 
Blood glucose has been replaced by blood fasting glucose as suggested by the reviewer throughout 
the text
4-The “y” axis of figure 1 could represent logarithmic units, that are more suitable for OR. 
While Log OR is a valid alternative, we believe that the use of standard units for the y axis is most 
appropriate for the representation of the results.

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