Reviewer's report

Title: Association between a frequent variant of the FTO gene and anthropometric phenotypes in Brazilian children

Version: 2 Date: 12 December 2012

Reviewer: D. Michael Hallman

Reviewer's report:

The responses were appropriate to most of my previous comments. (Even the comment with the careless error I made concerning the BMI Z-scores and their standard deviations, for which I apologize. Standard deviations can certainly exceed the mean in a normal distribution, as shown by the standard normal distribution with a mean of 0 and a standard deviation of 1.) However, I am still bothered by the inconsistency in regarding a p-value of 0.054 for one test as indicating a marginally significant association, while for another test, a change in p-value from 0.013 to 0.055 after adjustment is taken to indicate that an association has disappeared. If this difference in interpretation is connected to the fact that the p-value of 0.055 refers to a post-hoc comparison using the Tukey test, while the p-value of 0.054 pertains to a global test across three genotypes, it would still be open to question, since Tukey’s test adjusts for the multiple comparison.

All three comments below need to be addressed:

1) Page 3, “Approximately 63% of all European populations carry at least one....” This should refer to individuals of European origin or descent who can carry 0, 1, or 2 A alleles at rs9939609, rather than populations.

2) Page 10, “When we adjusted the energy intake for lipids and BMI, this association disappeared (P = 0.055; data not shown).” This is inconsistent with Table 2 and the Abstract, which both highlight an association with waist circumference that has a p-value of 0.054. If p = 0.054 indicates the existence of an association, surely a p-value of 0.055 does not denote that an association has “disappeared” after adjustment. One suspects the T/T homozygotes still had somewhat higher lipid intake after adjustment; and that what “disappeared” was just the statistical significance, not the approximate genotype/phenotype relationship. If p = 0.054 demonstrates an association, it’s hard to argue that p = 0.055 doesn’t.

3) Table 2: While BMI Z-scores have their uses, one would like to see the actual raw mean BMI values in each group, as well.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:
I have no competing financial interests or personal or professional conflicts of interest that would affect my review.