Reviewer's report

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

Version: 1 Date: 28 August 2012

Reviewer: REGINA MARIA M GUARAGNA

Reviewer's report:

#1- The study is an interesting paper that evaluates the frequency of rs9939609 FTO gene polymorphism in children and adolescents in Brazil. The authors found an association between obesity and A/A genotype. They observed a significant association between the A/A genotype and a higher mean BMI Z-score; moreover they observed significant difference in energy intake from lipids. The children (4 y) with T/T genotype and intermediary BMI had major energy intake from lipids. In the discussion, they explained that a reduction in central melanocortin has been associated to a dietary preference by fat. My suggestion: please, determine the fatty acids composition of the fat food consumed (saturated, mono or polyunsaturated fatty acids; #3, #6, trans fatty acids). The quality of fatty acids is very important because children with FTO genotype T/T at 4 years have intermediary BMI value (0.26 T/T, when compared with others: 0.13 T/A; 0.57 A/A); moreover the BMI continue increased and the BMI variation was 6.96%. Also, the A/A children consumed less energy from lipids; this talk about amount of food consumed, do not talk about quality. This analysis could inquire about the influence of fatty acids quality on obesity. The dietary patterns of this group are available because the food intake was recorded.

#2- In the table 3, the authors studied the FTO gene genotype in a replication sample (children and adolescents- 5 to 18 years). They found different results, they explained:

“in these older children, the T/A and A/A individuals showed similar means of these two parameters, which diverges somewhat from the results in the first cohort, where the A/A and T/A genotype groups were different”. Why the authors didn’t divide the sample in two groups: children, until 8-10 y and adolescents? Table 3 show T/T genotype with the minor BMI and sum of skin folds, that is different of results present in the table 2. It is lamentable that dietary patterns are not available in this group. Please: distribute the replication sample in children and adolescents. After analyze the dates.

Level of interest: An article of importance in its field

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