Reviewer’s report

Title: The contribution of FTO and UCP-1 SNPs to extreme obesity and cardiovascular risk in Brazilian individuals

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Reviewer: Robert Fredriksson

Reviewer’s report:

The paper by Ramos et.al entitled "The contribution of FTO and UCP-1 SNPs to extreme obesity and cardiovascular risk in Brazilian individuals" is in general very well written and the analyses are largely adequate.

Major comments:

1) The tables appear as supplementary information in the submission.

2) Considering the relatively small sample size in this study, the authors should present power estimations in the context of the data in Table 2.

3) Estimating the genetic origin of an individual based on only 40 markers seems relatively weak. The authors should discuss the power issues of this in the discussion, especially since . Also, in the context of this, the authors state that there is no difference between the obese and the controls. How was this obtained? To me there seem to be a difference in the Africans genetic contribution (case:0.087+-0.017, control: 0.037+-0.006). This should be clarified.

4) Regarding the genetic background, wouldn't it be more relevant to consider only the markers close to relevant SNPs in UCP-1 and FTO? This way the ancestry of the genetic blocks under study could be determined and analyzed. This should be discussed.

5) early in the discussion the authors gives the impression that FTO is only associated with BMI in Europeans. This is not true, there a numerous showing association of FTO with obesity in other populations. These are just examples I know, there are many others, also from other populations:

   Africans (PMID: 21317302, PMID: 20299471)
   Asians (PMID: 22421923, PMID: 21796137)

This needs to be properly cited.

Minor comments:

1) line 221: Here FTO should be replaced with the FTO SNP number investigated.

2) line 237: This sentence should be rephrased to match 3) above.

3) Figure 1 should have error bars and would probably be more readable in 2D rather than 3D.
Level of interest: An article of limited interest

Quality of written English: Acceptable

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

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