Reviewer’s report

Title: Establishing a genetic link between FTO and VDR gene polymorphisms and obesity in the Emirati population

Version: 0 Date: 07 Aug 2017

Reviewer: Francesca Marchegiani

Reviewer's report:

In their manuscript, Khan et al aimed at discussing a possible genetic link between two important genes (FTO and VDR) and obesity in the Emirati population. This represents a very interesting and novel study and it merits consideration.

Nevertheless, this referee feels that there are many caveats in the manuscript that should be thoroughly considered prior to discussing publication.

Major revisions

The idea of restricting the analysis to candidate genes for obesity is a way to reduce the power limitation due to the relatively small sample size. It is also interesting to study the interaction of well-known genes for obesity. However, the manuscript lacks of information and details. In the introduction section, please, specify and better justify the FTO and VDR genes choice.

The "Research Design and Methods" section lacks of lots of important details: no data about age range and gender distribution is provided. It would be important to consider a separate statistical analysis grouping by sex (male and female separately). Also, no information about medication taken is provided.

I think it is not correct to define "haplotype" when you refer to polymorphisms in different chromosomes. Indeed, if no linkage disequilibrium between them exist, I wonder what is the sense of phasing the data and defining haplotypes. I think it could be more correct to use genotype combinations or carriers. Please refer to this recent paper: Bordoni L, Marchegiani F, Piangerelli M, Napolioni V, Gabbianelli R. Obesity-related genetic polymorphisms and adiposity indices in a young Italian population. IUBMB Life. 2017 Feb;69(2):98-105.

In the first part of the "Results" section, you make a comment about the lipidic profile. For this referee, it seems quite unlikely that the lipidic profile will not change between the three groups
considered (obese, overweight, and normal). However, if this is true, you cannot say that there is a linear increase because the results are not significant. Change or eliminate this sentence.

In the discussion section, you should write more and look for more references in the literature about obesity and genetic; in particular, you should comment not only the studies that report similar results of your study but also studies with contrasting results. In addition, at the end of the discussion section it is very important to state the strengths and limitations of your study.

Minor revisions

You should revise the manuscript again for language errors.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Unable to assess

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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