Reviewer's report

Title: Ethnic differences in overweight at the age of two: the role of prenatal factors, birth outcome and postnatal factors

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Reviewer: Magnus Fasting

Reviewer's report:

The authors have written a nice paper concerning the differences in overweight in children of different ethnicities. They have tried to explain why these differences are present. In the paper, they use data from the ABCD-study, a prospective study including 7050 mother-child pairs. Of these they had two-year follow up data on 3432 children and complete covariates on 3156 mother-child-pairs.

Their main finding is that even among 2-year-olds, there is a considerably higher occurrence of overweight among those children with Turkish and Moroccan mothers. Additionally, they suggest that this difference is partly mediated by two of their covariates: maternal pre-pregnancy BMI and how much weight the child gains during the first 6 months.

The paper is interesting and warrants publication, but I have some points I wish the authors address before the paper is published:

Major compulsory revisions:

1. The language and flow of the paper is not so good. I also noticed several typographical errors, and I probably missed several more. It would be nice if someone proficient in English looked over it. Also, it is smart to start every paragraph with a sentence summarizing what the paragraph is about. It makes the text much easier to read.

2. The authors state in their introduction that overweight is a large problem, that some ethnic groups are hit harder than others and they introduce the developmental origins hypothesis. I miss a clear hypothesis.

3. You have created “African descent” and “others” as separate groups, but fail to comment them in the results section and in the discussion. You should either remove them both from the study, or comment and discuss them as well.

4. The discussion needs to be reviewed. It is unstructured and does not read well. Some points:
   a. The authors start the discussion with the sentence “to our knowledge this is the first study to examine in detail ethnic differences in overweight in children of preschool age,”. A quick pubmed search reveals several other papers (and reviews) on this subject. You also cite other works on this subject, ref 12 and ref
b. The first paragraph of the discussion does not do a good job in presenting your paper’s main findings. It should be rewritten.

c. In the second paragraph of the discussion, you state: “Most studies however, presented overweight prevalences in older children” without a citation.

d. In the third paragraph I miss discussion about the role of shared genetics and social environment as the mediator of the pre-pregnancy offspring overweight association.

e. In the fourth paragraph you state that weight gain was the most important factor explaining the ethnic differences in overweight. Where did you show that? Furthermore, that paragraph should be rewritten, and possibly merged with paragraph six.

f. I don’t understand what you mean with the last sentence on p 13.

Minor compulsory revisions:

1. I wonder why the fifth paragraph in the introduction was added. Surely, there are several studies on multiethnic pre-school children and determinants for overweight and obesity. Many of these are also prospective as well. I would suggest deleting the entire paragraph, it does not add anything.

2. In the third last sentence in the first paragraph on p7, the “[31]” should be in front the period.

3. The fourth last sentence on page 8 is in the active form, while the rest of the paragraph is in the passive form. You should be consistent.

4. You don’t state that you wish to study differences in covariates among the different ethnicities. These differences are also not discussed in the discussion. Why do you then present comparisons between the groups for variables such as mean age, parity, maternal education etc.? I suggest that you at least remove the last column of table 1 and only comment the noteworthy differences in the text.

5. In general, if you in an epidemiological paper state that “something is different from something else”, it is implicit that you have done a statistical test giving a p-value or something equivalent to find that. So you can remove the word “significant” almost everywhere. Also, that 0.05 is used as a cut off is almost self evident. So it is okay to remove the last sentence from p 8. Additionally, presenting only the fact that p<0.05 in the text does not tell the reader anything (the difference could be large or the sample size could be large). I prefer that you write “something is different from something else (15 units v 10 units, p = 0.03)” or something like that.

6. The second paragraph of p 9 belong in the methods section.

7. In the last paragraph of p9, you say that “the risk of overweight was increased”. Risk is not the same as odds ratio, especially when the outcome is so
prevalent such as overweight.

8. On p 15 you have written “Haque” not “Hague” (which I suppose you mean?).

9. In reference 11, you have written “Ref Type: Report". Should that be there?

10. It doesn’t say where ref 12,16,22,24,29,30,33 and 39 can be found.

11. In both Table 2 and Table 3<r, you present p-values. That is unnecessary as the point estimate and the confidence interval give the estimate and the precision of the estimate. It is evident from these numbers which values have high and low p-values.

12. In the title of table 2, “an” is misspelled “and”.

Discretionary revisions:

1. I am not so happy with the use of mechanistic methods in epidemiology such as the method you have used, in the way that you blindly include or exclude covariates depending on a p-value without thinking. A better way to create this model would in my opinion to be to use what you know from the literature, and include those factors. Why would for example more alcohol during pregnancy lead to less overweight?

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: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no competing interests.