Reviewer’s report

Title: The effect of a lifestyle intervention in obese pregnant women on change in gestational metabolic profiles: findings from the UK Pregnancies Better Eating and Activity Trial (UPBEAT) RCT.

Version: 0 Date: 06 Feb 2018

Reviewer: Warwick Dunn

Reviewer's report:

The manuscript submitted by Mills and colleagues describes a NMR metabolomics study of 158 metabolic measures in blood in the UPBEAT RCT to assess changes in these measures during pregnancy in obese women. The team have also compared to a previous study in non-obese pregnancies. The manuscript is well written, defines the study accurately, does not over reach with its conclusions and is honest about the positives and limitations of the study performed. The work presented adds to our current knowledge of metabolic changes during pregnancy. There are a small number of recommended changes.

1. Page 9, line 17. 1194 subjects has a minimum of one metabolic profile measure. It is unclear what is a metabolic measure is here and should be clarified - is this a sample for which NMR analysis was applied? If so, then a short discussion on how many subjects had two or three metabolic measures should be included and a comment on how assessing differences between subjects compared to assessing differences within the same subject influences the results.

2. Venous blood was collected but no description of how these samples were processed was included - was serum or plasma prepared?

3. The first and third trimester samples were not fasted whereas the sample collected in the second trimester was fasted. It can be expected that fasting could influence the metabolic measures collected. The authors should comment/provide evidence on this and define whether they believe there will be metabolic changes between fasted and non-fasted blood samples and how this would influence the results described.

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.

Yes

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organisation that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests
Statement on potential review bias

Please complete a statement on potential review bias, considering the following questions:

1. Did you co-author any publication with an author of this manuscript in the last 5 years?

2. Are you currently or recently affiliated at the same institution as an author of this manuscript?

If you can answer no to all of the above, write 'I declare that I did not publish with these authors in the last 5 years and also meet the affiliation criteria’. If your reply is yes to any, please give details below.

I declare that I did not publish with these authors in the last 5 years and also meet the affiliation criteria

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal