Reviewer’s report

Title: Thymic size is increased by infancy, but not pregnancy, nutritional supplementation in rural Gambian children: A randomized clinical trial

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Reviewer: Aryeh D Stein

Reviewer's report:

In this paper, Moore et al report on the results of a randomized controlled trial of nutritional supplementation during pregnancy and in early childhood with the outcome being thymus size at ages 1, 8, 24 and 52 wks. The four treatment groups in pregnancy were FeFol, MMN, LNS+FeFol, and LNS+MMN. In infancy, the interventions were LNS and LNS+MMN. The authors find that supplementation in pregnancy was not related to thymus size at any time point, whereas addition of MMN in infancy was associated with a larger thymus size at 52 weeks.

In general, the study appears to be well-designed and the manuscript is written clearly, with most expected components present.

A few questions for clarification:

1. The outcome measure is thymus size. The authors may wish to change the terminology to 'size' rather than 'development' throughout (including the title) as they do not have any functional measures of thymus function.

2. There is no presentation of the study power calculations. Is the lack of association with the pregnancy interventions a sample size issue?

3. Do the authors think that the LNS dose in pregnancy was sufficient to evoke a response in thymus size?

4. Similarly, was the null result for FeFol vs MMN related to dose?

5. The LNS is not just a protein-energy supplement. It might be preferable to refer consistently to LNS, not to PE, in the text and tables. Furthermore, the LNS groups
either received Fe-Fol or a MMN, so group 3 should really be denoted as LNS-FeFol, not LNS

6. Did the authors also conduct an 'on treatment' analysis given the lower compliance in the LNS groups? Was it informative in any way?

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?
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Yes

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