Reviewer's report

Title: Effect of nutritional supplementation of breastfeeding HIV positive mothers on maternal and child health: findings from a randomized controlled clinical trial

Version: 1 Date: 14 August 2011

Reviewer: Lars Thore Fadnes

Reviewer's report:

The authors ask an important, relevant and well defined question. The methodology is in general good and the analyses well chosen. The data seems to be good, although it is unclear whether they are sufficiently large to answer some of the questions related to the health outcomes of the infants.

The choice of references and literature seems to be good. There is a discussion on limitations, although this could benefit on being extended a bit. The article is well written.

Major Compulsory Revisions:

1. Has sample size calculations been done also for all the main presented infant health outcomes (growth, diarrhoea and lower respiratory tract infections)? If not, please present post-hoc power calculation with the sample size that was used.

2. The nutritional supplement sounds to be rather small in terms of weight and energy content. Please add to the conclusions something indicating the magnitude of the supplementation and also add some discussion on how a larger nutritional supplement could have given different outcomes.

3. What is the rationale for the opposite directions of the change between the control and interventions groups in LBM and FM (and tendency in BMI)? Might the calculations of FM or LBM be inaccurate?

4. The conclusion in the abstract could be worded with more uncertainty as the findings seemed to go in both directions (control vs. intervention). Currently reading: “The nutritional supplement had a limited beneficial effect on preserving the lean body mass of the breastfeeding mothers with a low BMI.”

Suggested alternative: “A 50 g daily nutritional supplement to breastfeeding mothers had a no or limited effects on mother and child health outcomes”

Minor Essential Revisions:

5. The following sentence is unclear and needs to be clarified:
   “that exclusively breastfeeding mothers require an increased energy intake of 626 kcal/day; this can normally be mobilized from their stores at a rate of 172 kcal/day”

6. Please add something like the following to introduce the Karnofsky score to
unfamiliar readers: “to measure well-being and activities of daily life”

7. Please add a short description of the performance threshold Karnofsky score of 80% that was used for categorisation.

8. The following sentence is unclear and needs to be clarified:
   “As low BMI is considered to be an important prognostic marker for breastfeeding HIV positive women, all parameters, where possible were analysed according to BMI category”

9. Were the analyses and categorisations pre-defined before the analyses were started? (If not, add this to limitations).

10. Please move some of the conclusions into the discussion section – particularly where you will need references.

Discretionary Revisions:

11. Results:
Remove one of the double dots: “supplement..”

12. Table 2 and 3:
Instead of indicating “P value for the difference between the groups (95% CI for the difference)” rather give the mean difference between the groups with 95% CI. The p-values will then be surplus.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

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