Reviewer's report

Title: A Randomized Trial of Multivitamin Supplementation in Children with Tuberculosis in Tanzania

Version: 1 Date: 2 June 2011

Reviewer: Marianne Visser

Reviewer's report:

Major Compulsory Revisions:

1. Baseline comparability of the 2 treatment groups: In the multivitamin group 39% were HIV-infected vs. 29% of the placebo group. It would be useful to know how many HIV-infected children were enrolled in each age stratum in the 2 treatment groups? No comment is made regarding the higher baseline CD8 count in the multivitamin group?

2. The conclusion made regarding significant weight gain among infants less than 6 months should be made with caution, since it involved only 22 children? Could you please comment on the baseline comparability of these children in terms of weight? How many children < 6 months in each treatment group were HIV-infected?

3. The conclusion regarding height gain among HIV-infected children also requires caution due to the fact that the trial was not primarily designed to assess changes in height. Again the number of HIV-infected children used in the analysis is unclear.

4. Serum albumin is a negative acute phase protein and therefore it is reduced in the presence of active infection/inflammation. It is expected that with the administration of anti-tubercular treatment, serum levels will increase. The authors report a statistical difference in the increase in serum albumin concentrations among supplemented vs. non-supplemented HIV-infected children. In my opinion this is likely to be related to the reduction in the inflammatory response in the 2 groups and not directly to multivitamin supplementation. Fleck A. Clinical and nutritional aspects of changes in acute-phase proteins during inflammation. Proc Nutr Soc 1989; 48: 347-354.

5. The authors report that the CD8 count increased among children aged > 3 years who were supplemented. The significance of this finding is not discussed?
Minor Essential Revisions:
Table 1 can be improved by providing the reader with absolute numbers. Percentages could be given in brackets. The number of HIV-infected children per age stratum should be provided.

Discretionary Revisions:
It is a pity that this trial had to be terminated prematurely. This could be mentioned in the abstract, since it may be the main reason why the trial failed to show any overall beneficial effect on weight gain. Only 64% of the calculated sample size was enrolled, resulting in less statistical power.

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.