Reviewer's report

Title: Vitamin D deficiency among newly diagnosed tuberculosis patients and their household contacts: a comparative cross-sectional study

Version: 0 Date: 31 Jan 2017

Reviewer: Chalotte Beaudart

Reviewer's report:

This is a well written manuscript with a clear and structured introduction. Methods section also reads well.

The major weakness of this manuscript is the statistics. Authors should incorporate a statistician in the revision of the current manuscript.

A few questions/issues raised by the reviewer:

- Did the authors check the distribution of the data prior performing the statistics? Some data do not seem to have a normal distribution (for example, CD4+, CD8+, CD3+ cells for which SD are very dispersed) and deserve to be presented with median (P25-P75). Non-parametric tests should therefore be applied.

- It is surprising that authors choose to perform a student T test instead of an ANOVA (to allow directly a three-group comparison).

- It is not clear why table 1 do not present results of level of education, occupational status, alcohol use and tobacco use for house contacts. If these data were not collected for this population, this should be specified in methods.

- It is not clear with table 2 is only showing results of TB patients and healthy controls and not the results of house contacts. In the method part, authors specified that these laboratory measurements were performed on all subjects.

- Table 2 and table 3 should be merged. Therefore, one unique table should show all laboratory results as well as vitamin D levels and deficiency categories.
- Table 2 should not present results of the X² but only p-values. Authors could add a footnote to this table to inform that a student T test was use for continuous variables and a X² was used for categorical variables. It is also absolutely necessary to report this in the statistical part of the methods.

- A multivariate regression should be performed to assess confounding factors of serum vitamin D level. For example, several models of multivariate analyses could be proposed by including age, sex, BMI, etc. as confounding variables.

- Table 4 is not clear at all. Authors do not report the factor of adjustment for the OR. It is not a classical way to report results of a logistic regression and this table should be entirely revised.

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