Reviewer's report

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

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Reviewer: Etienne Cavalier

Reviewer's report:

This study is not very original in its design and the results are somewhat expected. The main originality is that there are very few papers coming from this area of the world (Ethiopia) and that data are lacking.

Subjects and patients also share some characteristics (like BMI and skin color) which are unusual. Also interesting (from a scientific point of view) is the high prevalence of the disease and the number of patients included. I think that, if possible, an interventional study (double-blind vitamin D vs placebo) should be undertaken in these patients.

I don't have major criticisms.

I am not very familiar with the ImmunDiagnostik kit, and I guess that it is one of the few that may be available in Ethiopia. As stated by the Authors, differences in assays can lead to different results and it is quite difficult to interpret the results of this study when compared to others. Singularly, the performance of the assay in the hands of the authors is missing (coefficient of variation, etc.). I would suggest to use another assay or try to collaborate for future research.

Another explanation of the decreased 25OHD is that the granuloma secretes 1,25(OH)D and thus "consumes" the stores of 25OHD. In that view, calcium (or better, 1,25(OH)2D determination) might have been interesting.

I disagree with the conclusions from the household. Since they also suffer from poor conditions of living, like the patients (malnutrition, lower incomes...) this impacts their 25OHD concentrations. Now, I agree that they should be followed-up.
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Quality of written English
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