Reviewer's report

Title: Multiplex PCR technique could be an alternative approach for early detection of leprosy among close contacts - a pilot study from India

Version: 1 Date: 4 March 2010

Reviewer: Milton O Moraes

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The paper is much better presented this time, but still need some work on formatting, the presentation of the results and discussion.

Also few experiments would provide a much improved manuscript. Mainly the question is why only 89% of multibacillary patients? Authors should consider including in the multiplex or in a different PCR reaction a set of primers for a human gene. This test would discard any sort of inhibition, especially in the MB patients.

There are problems with the text. In the methods section authors say in page 5 last sentence and page 6 first paragraph: “Patients were grouped in the following categories: Patients without treatment, (ii) Patients on treatment not more than 2 months, (iii) Patients complaining of hypoesthesia but showing no clinical symptoms of leprosy – considered as Indeterminate type, and (iv) Patients released from treatment (RFT) and later developed a new active lesion/ relapsed cases.” But the results did not stratified patients according to the categories presented. So, authors should first define the number of patients in each category in the methods section. Second authors could present an improved table (or a second or supplementary table) trying to present the patients grouped at first by their clinical forms and then subgrouped according to their treatment status (months of MDT could be used). This point is very important because maybe the failure to produce a positive PCR result in all MB patients can simply be a matter of samples of patients at the end of treatment. It is expected that mycobacterial DNA in patients after MDT treatment is difficult to amplify due to genomic DNA degradation. This needs to be presented and discussed.

The following sentence “The prevalence is now less than 1 per 10,000 populations indicating that the disease is no longer a public health problem” needs edition: what does it mean: 1 per 10,000 populations? Also, why a low prevalence indicates an inexistence of a public health problem?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'