Reviewer's report

Title: Determinants of adherence to secondary prophylaxis of acute rheumatic fever recurrence on the island of Lifou (New Caledonia): a retrospective cohort study

Version: 1 Date: 16 October 2012

Reviewer: Philip Van der Wees

Reviewer's report:

The authors have presented an interesting paper with added value for improving adherence to prophylaxis to ARF and RHD. I have listed a number of comments that the authors should be able to address in a revised manuscript.

Is the question posed by the authors well defined?:
Yes

Are the methods appropriate and well described?
In my recommendations below I have suggested more detailed methods including subgroup analysis

Are the data sound?
Yes, although I listed a few queries in my recommendations below about the presentation of the data

Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes

Are the discussion and conclusions well balanced and adequately supported by the data?
Yes

Are limitations of the work clearly stated?
Yes

Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes

Do the title and abstract accurately convey what has been found?
Yes. See some small comments below.

Is the writing acceptable?
I found some typos (see comments)
Major compulsory revisions:

1. The manuscript provides only aggregate information about the interviews. Were questions open or closed, were multiple choices provided?

2. How were the interviews conducted with (young) children? Did all children answers questions themselves or was the interviewer informed by parents or caregivers?

3. The authors mention in the introduction that the prophylaxis should be applied every 3-4 weeks. Yet, the definition for adherence is one injection every 3 weeks. The authors should explain why they made this choice. Perhaps 3.5 weeks would have been better? Or conduct sensitivity analysis with a 4 week threshold?

4. I miss a table with baseline characteristics. The text in the result section provides some background, but a table would be more informative, by not only presenting mean and SD but also range for e.g. age.

5. Given the sample of (young) children and adults I would have expected subgroup analysis of children vs. adults (e.g. <16 years old, since this was also a factor in the univariate analysis). It can be expected that adherence to medication among children is different than among adults. The authors do reflect on some age related factors (missing school) for non-adherence in the discussion as well.

6. Too much emphasis is placed on the results of the univariate analysis in both text and Table 1. The purpose of the univariate analysis is to identify variables for inclusion in the multivariate analysis. The p-value is of importance (based on the threshold of p=0.25 of the authors), but presentation of the findings should merely be aimed at transparency. By emphasizing the results and including the odds ratios in Table 1, an important effect of these variables is implied.

7. The legend in table 2 lists the variables that were included in the multivariate analysis. Based on the p-values in Table 1, I miss parental occupation. I also do not understand the difference between the two listings of parental occupation in Table 1.

Minor essential revisions:

8. The title does not include rheumatic heart disease
9. The abstract includes abbreviations ARF and RHD without clarification.
10. How can adherence be higher than 100% (line 121)?
11. Global adherence to treatment of chronic disease (line 121)
12. Provide initials of the interviewer(line 173)
13. Individuals in the household with adherence (line 254).
14. Reference is missing (line 176)
15. What is concret dwelling? (Table 1)
16 Reference #4 and #6: WHO is not correctly referred to as author
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