Reviewer's report

Title: How useful is a history of rubella vaccination for determination of disease susceptibility? A cross-sectional study

Version: 2 Date: 12 September 2012

Reviewer: Pia Hardelid

Reviewer's report:

The authors estimate the accuracy of a verbal history of vaccination for predicting rubella susceptibility in a Malaysian antenatal clinic. The paper is relevant as there is no routine antenatal screening for rubella susceptibility in Malaysia, and the conclusions drawn in the discussion are sensible given the results. The paper is clearly structured. I have a few comments which could improve the paper.

Major compulsory revisions

- It would be helpful if the setting of the study is mentioned in the title

- Please can you provide more detail regarding the representativeness of women seen in the antenatal clinic where the study took place in terms of education, socio-economic status, urbanity etc compared to women in 1) Selangor and in 2) Malaysia in general. There is only very limited information about this in the discussion (it would have been helpful in the Methods section).

- Please can you provide a sample size calculation. Please also provide information regarding response rates – they way it is currently written it appears all women invited agreed to participate – was this the case? Were all data items complete?

- You need to provide 95% confidence intervals for the estimates of sensitivity, specificity, PPV and NPV. This should be possible in SPSS. Please also provide confidence intervals for the seroprevalence estimate (the % susceptible).

Discretionary revisions

- You should fit a logistic regression model with rubella susceptibility as outcome to examine how the association between rubella susceptibility status and history of vaccination vary is affected by age, parity and ethnic group. It is of interest to know whether a history of vaccination is more predictive of susceptibility than say, age group, and (although the study is likely to be underpowered) whether the association between vaccination history and susceptibility varies by parity and age group (this would be explored using interaction terms).

- How do your results change if you change the cut-off used to define susceptibility (for example if it is reduced to <5IU/ml)?

Minor essential revisions
- You should consider asking a person with English as their native language to look over the paper as there are some quirks in how the paper is written.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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 I have no competing interests.