Reviewer’s report

Title: The influence of Streptococcus pneumoniae nasopharyngeal colonization on the clinical outcome of the respiratory tract infections in preschool children

Version: 2 Date: 24 February 2015

Reviewer: Catherine Satzke

Reviewer’s report:

Petraitienė et al. have examined the association between pneumococcal (Spn) carriage and respiratory tract infections in 900 children aged less than six years. This is generally a well conducted study, however I believe there broader interpretation of their findings is at times misleading. Comments and suggestions are outlined in detail below:

Major Compulsory Revisions

1. Throughout the manuscript the authors state that they demonstrate that Spn carriage negatively impacts on / influences / effects the course of respiratory infection. Here I think the authors would be better to emphasize that the nasopharynx is the reservoir for Spn (which underpins findings from other studies that have found that high Spn carriage rates (and density) are associated with disease) and instead talk about the association of carriage and infection and disease.

2. It would have been more valuable to see data around the cause of disease (viral/bacterial, Spn in particular). For children with Spn infection then you would expect Spn carriage rates to be higher. Observing the same phenomenon in children without Spn infection would speak to the issue of bacterial/bacterial or bacterial/viral interactions. These issues are not properly addressed and considered in the manuscript at present.

3. The authors concluding statement “our results illustrate…” is true, but not relevant to the data presented.

4. It is unclear why the authors excluded those that had been previously vaccinated.

5. The NP swabs were taken using a culturette with Amies transport media. Spn carriage should be assessed using a deep NP swab sample. The swab tip of the culturette appears quite large, are the authors confident this could reach the NP in children?

6. Similarly to the above, can the authors provide assurance by reference or their own data, that Amies media does not reduce recovery of Spn in comparison with the WHO guidelines for assessing pneumococcal carriage? (O’Brien et al. PIDJ 2003, Satzke et al. Vaccine 2013)

Minor Essential Revisions
1. Italicize species names in the reference list.

2. Amend Table 3 to reflect standard serotype/group designations, e.g. “serogroup 15”, “23” should be e.g. “23A/B” etc. Also, please clarify what is meant by “G+” (presumably the serotypes/groups reaction for reagent G) and explain why these were not further distinguished.

3. How many isolates were unable to be typed?

Discretionary Revisions

1. The study would have been much more informative with quantitative carriage data, can this be performed and added to the manuscript?

2. Why was the recovery data assessed as categorical rather than continuous data?

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests