Author's response to reviews

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

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Author's response to reviews: see over
Dear Editor-in-Chief,

Authors would like to thank the reviewers for their comments.

Please find enclosed point by point response to the reviewers’ comments on our manuscript entitled "The influence of *Streptococcus pneumonia* nasopharyngeal colonization on the clinical outcome of the respiratory tract infections in preschool children" by Petraitiene et al which we would like to re-submit for publication as a research article to the BMC Infectious Diseases.

Reviewer 1
Minor Essential Revisions
1. Background, second paragraph, line 56: Sentence should be rephrased as “Many recent studies emphasize the contribution of Spn to severe diseases such as …..”
   Response: Sentence has been rephrased.

2. Methods, line 115: Bile solubility is used to confirm the identity of a culture as *S. pneumoniae* and therefore the inability to perform bile solubility on the cultures would have resulted in the observation of false positives (*Streptococcus* species other than SPn that also show optochin sensitivity), and the overestimation of the prevalence of carriage in this population as opposed to “lost positive samples” as described in the paper.
   Response: We used the WHO recommendations Standard method for detecting upper respiratory carriage of *Streptococcus pneumoniae*: Updated recommendations from the World Health Organization Pneumococcal Carriage Working Group as follows: http://dx.doi.org/10.1016/j.vaccine.2013.08.062
   As you can see on the table 2 (page 172) there is no recommendation to perform the bile solubility test for optochin susceptible specimens as these samples are considered to be reported as *S.pneumoniae* without performing the bile solubility test. Therefore we believe that there is no overestimation of the prevalence of carriage in our data.
3. Results: lines 158-159: please include in the text what was used as the reference group for this comparison.
Response: Reference group (“... compared to non-colonized cases ...”) has been added to the sentence.

4. Results, line 191: This statement refers to Table 3 and not Table 2 as indicated.
Response: Corrected.

5. Discussion, last sentence: please see point 2 above with regards to the use of bile solubility. It would be used to identify true positive Spn results, and not false negatives as indicated.
Response: See response to #2

6. Table 1: Check percentage values for the Male and Female proportions for the sites – the total % male and % female should be 100% for each site.
Response: Percentage values have been changed accordingly.

11.1. Recommendation

Culture should be performed in NP swabs compared to non-colonized culture to improve the method we currently recommend.

11.2. Future research

A systematic laboratory study using large collection kits is needed to design and validate culture-negative but DNA-positive results.

12. Serotyping

12.1. Quellung

The current standard test is the capsular swelling test or Neufeld test [1]. Tin antigen type [93], Austrian [94] and magnification with oil immersion. 

![Identification algorithm for carriage isolates of Streptococcus pneumoniae (the pneumococcus).](image-url)