Reviewer's report

Title: Viral Etiology of Hospitalized Children with Severe Pneumonia in the Philippines

Version: 5 Date: 21 August 2011

Reviewer: David Murdoch

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This paper adds to the expanding literature on viruses associated with childhood lower respiratory tract infections.

Major Compulsory Revisions

(1) The study focuses on viral causes of pneumonia, yet includes blood cultures as a sole bacteriological method. This provides limited opportunity to comment on bacterial causes of pneumonia. Consequently, I would recommend retaining the focus on respiratory viruses and omitting the blood culture data altogether.

(2) Notwithstanding the above comments, more details are needed for the blood cultures if they are to be retained. When were the blood culture bottles subcultured? Which interpretative criteria were used for antimicrobial susceptibility testing? What proportion of blood cultures were contaminated and how was contamination defined? How do the authors explain the relatively high numbers with B. cepacia bloodstream infection? Are they confident about the identification of these isolates? Could they be isolates of B. pseudomallei?

(3) It cannot be assumed that some of those who were discharged against medical advice died unless this has been confirmed. Therefore, the two groups "died" and "discharged against medical advice-deteriorated" should not be combined. The data should be re-analyzed for in-hospital deaths only.

(4) Although the authors mention the main limitations of the study in the discussion, it is not strongly enough emphasised that detection of a virus does not necessarily mean it is a pneumonia pathogen. Similar studies that have also tested control groups have reported detection of viruses in similar proportions of controls, thus making it difficult to assign causation. The first sentence of the conclusion (page 26) cannot be substantiated based on the findings of this study, especially as there were minimal tests for non-viral pathogens.

(5) It is always difficult deciding how to present data on multiple infections (in this case multiple viral infections). However, I do not think it is useful to assume all multiple infections are the same as some combinations will be different than others. Rather than analyzing single versus double infections, it would be better to assess any effect through testing for interaction between different virus combinations.

Minor Essential Revisions
(1) The title of the paper should be changed to "Viral etiology of severe pneumonia in hospitalized children in the Philippines" or similar, as the etiology is of the pneumonia, not the children.

(2) What type of nasopharyngeal swab was used in the study?

(3) What were the reasons for refusal to participate in the study?

(4) There is some unnecessary repetition of results in text and tables.

(5) Table 1: the two variables summarised as medians should also have measures of spread (interquartile ranges). Also, was the antibiotic use prior to admission obtained from parental history or by some other measure?

(6) Table 3 is unnecessary.

Discretionary Revisions

(1) PCR does not need to be spelt out in full, unless it is still the policy of the journal (abstract).

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests