Reviewer’s report

Title: The impact of healthcare visit timing on reported pertussis cough duration: Selection bias and disease pattern from reported cases in Michigan, USA, 2000-2010.

Version: 1 Date: 31 Jul 2016

Reviewer: Flor Munoz

Reviewer’s report:

The authors have addressed the majority of the comments provided by the reviewers and have produced a more clear and improved manuscript.

There are a few additional points that deserve further clarification though.

In general, it is clear from the study and the literature review that it is unlikely that the use of antimicrobials will have an effect on the duration of cough.

The main conclusion of this article is also well accepted, that is, that the timing of presentation of the patient for medical care in relation to the onset of cough (care seeking behavior), influences the assessment of the effect of treatment on the duration of cough, and introduces a number of biases on the assessment of the illness itself.

The addition of figure 1 is greatly appreciated as it helps to visualize the different clinical scenarios that can occur in real life.

However, the differentiation between true prophylactic treatment (started prior to the onset of symptoms) and treatment of infection (started after the onset of symptoms) remains an important piece in this discussion.

The discussion in page 7 seems to imply that prophylactic treatment does not work. Similarly, the discussion in page 8, lines 40-42, referring to lack of effect of antibiotics when used before the onset of cough, talks about cases 5 and 6 which are quite different, but the implication remains that prophylaxis does not work.

The cases are different because in one, case 5, antibiotics are started prior to the onset of cough, but in the presence of other symptoms (catharral stage), therefore the person is already infected. However, in case 6, the prophylaxis is given prior to the onset of ANY symptoms, which could indicate that the person was not infected at the time, and therefore, there would be no expectation that antibiotics would have any effect. Furthermore, this person could complete a 5 day course of prophylaxis, and still become infected after that, which means that the antibiotics will have no effect on the symptoms or duration of cough. would it be possible to explain this in the document?
Please comment on the implication that prophylaxis is inefective for reducing the duration of cough, in the context of its potential effect in reducing the risk of transmission. The only true effect of the antibiotic is to eliminate the bacterial burden and reduce the risk of transmission, and this needs to be clear, as duration of cough is not the main purpose for offering treatment. Misinterpretation of these findings might result in misinterpretation of the use of prophylaxis.

In Figure 1 legend, sentences in lines 20-28 are not clear, please rephrase.

Lastly, the very important limitation of this study is that indeed, the duration of cough in patients with pertussis is prolonged, on average 3 months, which is longer than the duration of follow up used in this study (7 weeks), as such, the interpretation of the results needs to be placed in this context.

Overall, this manuscript contributes to the knowledge of how to assess the clinical impact of pertussis and the importance of biases, particularly medical attention seeking behavior and timing of medical attention, on the assessment of treatment outcomes. The concordance of real life data with a modeling tool is also appreciated.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
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