Reviewer's report

Title: "Why do paediatricians prescribe antibiotics? Results of an Italian regional project"

Version: 1 Date: 1 July 2009

Reviewer: Sigvard Mölstad

Reviewer's report:

This is an important and interesting article describing a multi-faceted approach to find explanatory factors to the high antibiotic prescribing rates to children in an area in Italy. The aim is to use the results in an intervention targeting children. The paper actually contains 4 studies approaching children, parents, pediatricians in different ways. This ambitious approach is also a weakness, since the paper must be read carefully in order not to get lost. In addition the term URTI might be interpreted differently by different participants - or is this paper about RTIs?

Minor essential revisions

Abstract
Methods: Should include more information on the different methods used in this complex study.
Results: Can give some more results. Do not agree on the used term "direct observation showed" - I don’t think a direct observation was conducted. This result is drawn using data from different parts of the study, comparing the questionnaire on knowledge and attitudes with the survey on actual practices and this should be more clearly stated.
Conclusions: "explored all determinants" - I do not think all determinants are explored - just leave the word all out.

Introduction: OK
Methods:
Survey on parental knowledge and attitudes
Did the questionnaire have just yes/no answers, a likert scale or open answers? Some more details, please.
Survey on paediatrician practices
In Table 2 you get the impression that all answers were yes/no with preset alternatives on symptoms and signs. If so say so or describe.
Survey about parental expectations/satisfaction
Describe type of interview - open questions, fixed alternatives, scale etc.
Results: Paediatricians’ knowledge and attitude

p 6, r 2: Delete about in mean age.

p 6, r 9: Bronchitis cannot be regarded as an Upper RTI - maybe your data/questionnaire allow you to state- FPs indicated that symptoms of bronchitis/coughing/......

Paediatrician practices

p 7, r 20. "Antimicrobials were prescribed in 1645 cases, most frequently in cases of bronchitis or otitis.... This a problems, since you state that you collected visits for suspected URTI, but again bronchitis appears as a reason to prescribe antibiotics. Maybe this should be dealt with in the discussion - we all know that in children symptoms from the lungs are common also when the major focus is in the upper respiratory tract.

Interpretation:

p 9, first section: Again Upper RTI and bronchitis and tracheitis - these two diagnosis represent lower RTI diagnoses in my mind. This must be discussed in relation to inclusion criteria and the possible selection made by different participating doctors.

p 11, second section- discussing limitations - did you check if each visits for RTI was included by participating doctors (survey on paediatrician practices), drop-outs regarding the self-administrated questionnaire regarding parents (Parental knowledge and attitudes). You could shortly elaborate some more on the possibility of selection bias, also regarding what is perceived as Upper RTI and Lower RTI.

You might also discuss the influence of high density of physicians?, easy access to consult?, payment system? in relation to other countries.

Table 2. Expand the table text, so that you can understand from what part of the study the data are collected, i.e. pediatrician data etc. Otherwise for example the question Was the parent expecting an antibiotic prescription? be misinterpreted. Suggest organising the data so that background data (age of child, parents born abroad...), then symptoms and signs. Suggest excluding age of doctor, mention that in text.

Minor discretionary revision

Interpretation: I prefer discussion.

Last section: In conclusion, x is left out in complex?

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

**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.