Author's response to reviews

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

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Version: 2 Date: 24 July 2009

Author's response to reviews: see over
Dear editor,

First of all, I would like to thank the reviewers for their useful comments and suggestions. The manuscript has now been revised accordingly, and I enclose the revised manuscript.

Editor comments

1. The study has not been submitted for approval to any ethical committee, because it has been considered a social survey thus not requiring an ethical approval.
2. An Authors’ contribution section has been included were indicated.
3. The revised manuscript conforms to the journal style

REFEREE 1 COMMENTS

- **URTI or RTIs?** The surveys have been in reality designed to collect data concerning common respiratory tract infections, sharing clinical signs and symptoms (including cough). The questionnaires targeted to parents did not mention specific diagnoses but only a set of symptoms (including cough); the questionnaires for paediatricians specifically mentioned to include URTIs but also bronchitis/tracheitis. In the paper, for seek of brevity, we mentioned only URTIs, but now this issue has been clarified and the manuscript changed accordingly. The term URTI has been substituted across all the manuscript with “common RTIs”.

- **Abstract, methods:** it has been changed as follows “A two-step survey was performed: in phase I, knowledge, and attitudes were explored involving all family and hospital paediatricians of Emilia-Romagna and a sample of parents. In phase II, patient care practices were explored in a stratified random sample of visits, both in hospitals and family physician’s clinics; parent expectations were investigated in a sub-sample of these visits”.

- **Abstract, results:** More results have been included. The paragraph has been changed as follows “Out of overall 4352 visits for suspected RTIs, in 38% of children an antibiotic was prescribed. Diagnostic uncertainty was perceived by paediatricians as the most frequent cause of inappropriate prescription (56% of 633 interviewed paediatricians); but, rapid antigen detecting tests was used in case of pharyngitis/pharyngotonsillitis by 36% and 21% of family and hospital paediatricians only. More than 50% of paediatricians affirmed to not adopt a “wait and see strategy” in acute otitis. The perceived parental expectation of antibiotics was not indicated by paediatricians as a crucial determinant of prescription, but this perception was the second factor most strongly associated to prescription (OR=12.8; 95% CI 10.4 - 15.8), the first being the presence of otorrhoea. Regarding parents, the most important identified factors, potentially associated to overprescribing, were the lack of knowledge of RTIs and antibiotics (41% of 1029 parents indicated bacteria as a possible cause of common cold), and the propensity to seek medical care for trivial infections (48% of 4352 children accessing ambulatory practice presented only symptoms of common cold).

- **Abstract, conclusions:** “all” has been deleted.

- **Methods: Survey on parental knowledge and attitudes:** The questionnaire included closed questions with unordered answers as well as answers on a four points rating scale (from “strongly disagree” to “strongly agree”. This has been clarified in the paper.

- **Methods: Survey on paediatrician practices:** The questionnaire included closed questions with unordered answers as well as answers on a four points rating scale (from “strongly disagree” to “strongly agree”), which were grouped in the analysis as “disagree” or “agree”. This has been clarified in the paper.
- **Methods: Survey on parental expectations/satisfaction:** The questionnaire included closed questions with unordered answers as well as answers on a four points rating scale. This has been clarified in the paper.

- **Results: Paediatrician knowledge and attitudes:**
  - p.6, r 2: about has been deleted
  - p.6, r 9: URTIs has been changed in RTIs

- **Results: Paediatrician practices:**
  - P.7, r 20: URTIs has been changed in RTIs

- **Interpretation (it has been changed to “discussion”):**
  - P.9, first section: URTIs has been changed in RTIs
  - P 11, second section: selection biases. The following sentence has been added: “Another potential limit of the study is the incomplete control over potential selection of both the children and parents’ population; however, the enrolment of the requested number of children was achieved by all paediatricians in due time, making selection unlikely”.

- **Table 2:**
  - the title has been changed in “Factors associated with visits for respiratory infections resulting in antibiotic prescription. Univariate and multivariate analysis”
  - the data have been re-organized as suggested.

**REFEREE 2 COMMENTS**

- **Background. Why antibiotic prescriptions rate are so high in Italy?**
  The following sentence has been added to the introduction:
  “Italy is one of the countries with the highest antibiotic consumption in Europe⁴ as well as resistance rates⁵, due to a number of factors, including opinions and traditions regarding how to treat infections, lack of a stringent national antibiotic policy, and characteristics of the antibiotic market⁶”
  and a reference has been added.