Reviewer’s report

Title: Resistance profiles of urinary tract infections in general practice - an observational study

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Reviewer: Debra E. Irwin

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Resistance Profiles of Urinary Tract Infections in General Practice – An Observational Study

Reviewer Comments

This paper is based on an observational prospective study to assess antibiotic resistance for uncomplicated urinary tract infections (UTIs) for patients seen in general practice settings in Germany.

A. Study Generalizability and Representativeness

More detail is needed in the Methods Section to determine the representativeness of the participating practices. For example answers to the following questions would assist in evaluating the generalizability of the study results:

1. How many practices were initially invited to participate?
2. How many of those initially invited to participate actually participated?
3. The first sentence of the Results Section states that 67 practices expressed willingness to participate but only 40 included patients. What happened to the other 27? Why did they not contribute?
4. Do the patient populations seen at the practices that enrolled patients differ from those who did not participate (expressed willingness but didn’t enroll patients and/or participated in web-based discussion but did not wish to participate in study)? If they differ, in what ways do they differ? For example, is there a differential distribution of demographic characteristics or geographic location of the practices or characteristics related to UTI acquisition or type of bacteria causing UTIs?
5. Results Section states that some practices did not recruit patients because their laboratory would not provide the recommended antibiotic tests. Please provide the number of practices that were in this category. In fact, providing a tree diagram figure that starts with the total number of practices that were asked via email to participate, number who did not respond, number who did not want to participate, number who could not participate because of the lack of antibiotic testing, number who said they would participate but who did not enroll any patients etc…is advised. This is so the reader can clearly understand how practices/patients were involved in the study.
6. How do the patients at the participating practices differ from the general population of Germany (eg: demographic characteristics)?

Additional information should be added to the Discussion Section to discuss the likely impact of the data presented above on the study results as well as the impact on the generalizability of this study.

B. Definitions of Data Collected and Quality Control Procedures

More detail is needed in the Methods Section to describe what patient data was collected (eg: risk factors, age, pregnancy status, previous UTIs etc…). Was this data abstracted from the medical charts? Did patients complete a questionnaire? How were each of the variables operationally defined? Add a table showing the distribution of all of the characteristics collected on the enrolled patients so that the reader can put the study patients in context and this would also allow for some additional discussion of representativeness of these patients compared to the general population of UTI patients in the Discussion Section.

The 'quality control' measure is not well described and hence is difficult to determine what data is being quality control verified. The Methods Section states that ‘a randomized sample of 5% of all patients was drawn and controlled for possible data entry mistakes by telephone contact and compared with original data from recruiting practices’. Provide more detail on this? How was the data originally collected in the practices (eg: from abstraction of medical records or from patient self-report)? Who was telephoned (eg: the patient or the practice providing the data)? Which data items were queried during the telephone quality control check? Was there any quality control done on the lab data?

C. Non-standardization of Lab Data

The manuscript states that ‘a central laboratory was not feasible’. Please add a discussion of how this might impact the study results (in the Discussion Section).

D. Tables – both tables are labeled Table 2 but Table 1 is referred to in the text?

The first Table 2: state what S, I and R stand for in the footnote. Also more explanation is needed for the following statement ‘Missing values occur since in some cases, not all antibiotics were tested’. This should be elaborated in the Methods Section. How many samples for which this occurred? Which antibiotics were not tested? What are the reasons they were not tested?

For the second table 2 – include what n.a. means in the footnotes.

For both tables – the table footnotes are with the table titles. I would recommend putting the titles at the top of the table and the explanatory footnotes at the bottom.

E. General Comments for the Discussion Section

Add more information about the impact of not having a central lab on the results. The second to last sentence in the Discussion Section should be tied back to the reported results in the paper. Add context about how your results might impact
treatment guidelines or treatment patterns and/or tie it in with the last sentence in the Discussion Section.

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