Reviewer’s report

Title: Non Prescribed Sale of Antibiotics in Riyadh, Saudi Arabia: A Cross Sectional Study

Version: 1 Date: 10 June 2011

Reviewer: Daniel Morgan

Reviewer’s report:

Abdulhak and colleagues present a cross-sectional study examining community sales of nonprescription antibiotics in Riyadh, Saudi Arabia. The techniques are standard for the area of study and results of relative importance in that they demonstrate the ease with which antibiotics can be obtained inappropriately and without assessment of possible risks.

- Major Compulsory Revisions

1) the text is poorly written and makes the message difficult to infer. It needs extensive editing by a native English speaker to correct errors such as antibiotics being "dispended" instead of dispensed etc.

2) the writing is not clear beyond the English. Authors go beyond the data for the adverse consequences of antibiotic use in their introduction & discussion... there is a new review on the subject in which we tried to achieve a balance... Morgan et al. Lancet Infectious Diseases, that may be helpful.

The discussion was not clearly organized.
Subheadings should be removed, they are distracting and not particularly helpful.
Organizing the discussion into a more clear flow of ideas would help e.g. summarize findings, discuss impact on resistance, potential adverse events including allergies and pregnancy, then conclusions.

3) the methodology used by authors is close to that validated by others...see "simulated patients" in above review for reference. It would add significance to make it clear this is a validated approach despite using deceit etc.

4) tables are not very helpful as they stand.
Table 1 needs better legend. "Percentage of pharmacies willing to sell antibiotics without medical prescription according to strength of patient demand".
Table 1 could easily include information from Table 3 regarding appropriateness of antibiotic use for each diagnosis. This should be stated more simply than it is in table 3 though. Perhaps antibiotics appropriate? Yes, No, sometimes. See study from Wachter et al. in Nepal in above review for example of presentation.
Table 2 is fine, but needs a better legend...one that better explains purpose of table. I think this is very important to present though.
Table 3 -- make part of table 1
Table 4--remove. This is limited--see review above for complete list of studies. This is better just mentioned in the discussion as it is not new data from this study.

- Minor Essential Revisions

Note, in Brazil and potentially other countries, nonprescription antibiotic sales were not against regulations at time of study "comparison to other studies" section is therefore inaccurate.

Describe better how levels of demand or request were used. Potentially ahve a sentence after describing each method in methods "Each was employed sequentially until an antibiotic was dispensed or denied."

Describe clinical scenarios better. e.g "Pharyngitis: A healthy young male relative was described as having sore through, difficulties in swallowing with slight fever of 24 hours duration. Acute Bronchitis: An elderly male relative was described as having sore through, cough with sputum production. Additional information provided upon request was the patient had multiple comorbid conditions and was using warfarin...."

Authors do not discuss what seems a key finding from this study... that pharmacists were more likely to provide antibiotics inappropriately than for indications that may be appropriate. Diarrhea commonly receiving an antibiotic, whereas UTI did not. In other words, pharmacists did not give antibiotics for the right indications.

If authors could give potential reasons why antibiotics are used without a prescription it would be welcome... I'm sure they must have some hypotheses, such as it takes too long to see a doctor, or costs too much etc.

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

Quality of written English: Not suitable for publication unless extensively edited

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

Declaration of competing interests:

I HAVE NO COMPETING INTERESTS