Reviewer’s report

Title: Why Patients Want to Take or Refuse to Take Antibiotics: An Inventory of Motives

Version: 0 Date: 22 Feb 2019

Reviewer: Catherine Smith

Reviewer's report:

This study aimed to identify the reasons why people take or refuse to take antibiotics that have been prescribed. The researchers conducted a survey of 418 adults who were asked to rate statements relating to antibiotic use (or non-use) on a 15-point scale. They then used factor analysis to identify the main motives reported.

My comments are below:

Background

1. The acronym "BRICS" should be defined.

2. The statement that "Although use of antibiotics in developing parts of the world should be encouraged, the current level of consumption in developed countries raises concerns for public health" is not referenced and not entirely correct. Inappropriate/overuse of antibiotics is a worldwide problem, not just a problem in more developed countries. It can be made worse in developing countries for example by availability over the counter (see for example https://aricjournal.biomedcentral.com/articles/10.1186/s13756-017-0208-x).

3. Statement "Prescription by a physician is certainly not the only reason to take antibiotics: Patients consume many over-the-counter pharmacological substances, and antibiotics are just one of them" - this implies that antibiotics are available over the counter - please clarify if this is the case in the study area.

Methods

4. Development of questionnaire - who was in the focus group? Were they experts/members of the public etc? Was there a reason for using a 15-point scale used (is this a standard measure)?
5. Data analysis - there should be a section in the methods describing how the analysis will be conducted - i.e., calculation of mean scores; using exploratory factor analysis; regression analysis etc. This is a major issue with the paper in its current format.

6. Does the demographics/ personal experience with antibiotics questionnaire include a question about whether the participant has ever refused to take antibiotics that were prescribed? This seems important as the study aims to explore reasons for refusing antibiotics.

Results

7. Results should include a brief summary of the characteristics of the participants.

8. "The first factor (21%)…" - please clarify what the % refers to.

9. Tables - column headings should define the values being reported (e.g. in table 1, the column heading "Factors" should say "(Percentage of yes or no responses)", rather than just being in the legend. Please also clarify which columns are % of yes, and which are % of no.

10. Regression analysis - if a linear regression was used, this should be stated. It would also be easier to interpret if the results for the models were included in a table.

Discussion

11. Paragraph starting "Overall, a notable proportion of people report adopting behaviours that are more beneficial to micro-organisms than to humans and other animals…" - I find it difficult to understand what your meaning is here.

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

No

**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 recommend additional statistical review

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