Reviewer's report

Title: Overuse of antibiotics for the common cold - attitudes and behaviors among doctors in rural areas of Shandong Province, China

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Reviewer: Zuxun Lu

Reviewer's report:

This study aimed to analyze attitudes and practices in relation to antibiotics of doctors. It is an interesting subject, but the study design and method is not appreciate, which affect the reliability of this study.

Background: This section needs Minor Essential Revisions.

Background second paragraph: “The present study is part of the ongoing “Sino-Swedish Bilateral Cooperation on Management of Antibiotic Resistance” with the aim of understanding the situation and developing feasible interventions to address different aspects of the problems of antibiotic resistance in China and Sweden.” This sentence is meaningless.

Methods: This section needs Major Compulsory Revisions.
1#The study sample is not defined clearly. What is the inclusion and exclusion criterion for study sample? Whether or not did some doctors refuse to participate in study? Were some non-clinical doctors recruited in this study? If so, how will it affect the study result?
2#The development of questionnaire is not scientific and the reliability is doubtful. The authors reported that “The survey was developed based on a review of the relevant literature”. The development of questionnaire is too simple, and there are lack of pilot study and evaluation on the reliability and validity of questionnaire. In addition, the measurement of this study is not presented in detail. The result of the great discrepancy in knowledge and prescribing behavior may partly due to the absence of reliability and validity of questionnaire.
3#The sampling method for prescription selection is not defined clearly. What was the sampling method? Why did not chose prescription randomly in township health center and village clinics? And how did authors calculate the sample size? And what is the specific random sampling method used for prescriptions selection in county hospital?
4#Was “common cold” defined according to the international classification of disease?

Results: This section needs Major Compulsory Revisions.

The presentation of study result is too complicated. Some result can be shown in Table to simplify the result section.
Discussion: This section needs Major Compulsory Revisions.

The discussion section does not discuss but only reiterates the results. Here is where you compare and contrast your findings with other published research, explaining the findings, identifying how your results have provided NEW information and added to our understanding. For example, the author should explain: why were there gaps between knowledge and practice? Why were doctors in township health centers less likely to have attended training? Why were prescriptions from village clinics more likely to contain a prescription for an antibiotic?

In addition, the author said “only half felt that the national essential drug system affected their use of antibiotics” in “Discussion second paragraph”. However, this finding was not present in the result.

Level of interest: An article of limited interest

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

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.