Reviewer’s report

Title: Spatiotemporal Epidemiology of, and Factors Associated with, the Tuberculosis Prevalence in Northern China, 2010–2014

Version: 0 Date: 08 Feb 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?
No - there are minor issues

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?
Yes - experiments and analyses were performed appropriately

Statistics - Is the use of statistics in the manuscript appropriate?
Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
No - there are minor issues

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?
Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: GENERAL COMMENTS

* What is your overall impression of the study?
This fairly well-written manuscript titled: "Spatial-Temporal Epidemiology and influencing factors of Tuberculosis rates in northern China, 2010-2014" describes the spatial-temporal epidemiology of TB and the influencing factors in Inner Mongolia, China and adds to the literature in this less-studied area
of research.

* What the authors' have done well?
The Introduction, Methods, Results and Discussion Sections of the paper are fairly well-written, succinct and coherent. The authors reviewed the literature well, provided adequate justification for the study. Study design and data analysis was clear, and the authors provided enough information for authors who may want to replicate the study findings. The Results section was informative and Tables/Figures were well-presented.

* In what ways does it not meet best practice?
Some of the information stated in the Introduction section do not have citations or were poorly-cited. There is a need for the authors to improve the Discussions section and to add a paragraph on the Limitations of the study. Besides, the manuscript will benefit from a substantial English language edit to improve its grammar and clarity.

I have identified some revisions which will help the authors improve the quality of their manuscript.

REQUESTED REVISIONS:
INTRODUCTION
1) "According to the World Health Organization, 6.40 million TB cases were reported in 2015, including 6.23 million new cases and 170,000 retreated patients. TB is also one of the top 10 causes of death in the world, with 1.5 million deaths from the disease in 2014, and more than 95% of TB deaths occur mainly in low-income and middle-income countries."
Comment: Please, report more up to date data based on the 2018 Global TB Report

2) "Meanwhile, China still has the 3rd largest population of TB patients in the world, which is also one of the 22 high burden countries worldwide [2, 3]."
Comment: Please, report high-burden country disease burden based on the 30 -high burden countries for TB, HIV and drug resistant TB”. Note that the WHO no longer utilises 22 high burden countries, but rather the 30 -high burden countries…

3) "With the development of Geographic Information System, which is rapidly combined study infectious diseases [13, 14]."
Comment: This statement is not clear. I recommend that the authors revised this sentence to improve its clarity.

4) "Considering the geographic variations and temporal trends of TB, we hope to reveal the spatial-temporal distribution and trends of TB rate in Inner Mongolia from 2010 to 2014, and to explore the factors that affect the spatial-temporal variations of TB prevalence"
Comment: This is not a very clear study objective. I recommend that it should read:

"The aim of this study was to evaluate the spatial-temporal distribution and trends of TB rate in Inner Mongolia from 2010 to 2014, and to explore the factors that affect the spatial-temporal variations of TB prevalence"
METHODS

5) The study design and sources of data as well as statistical analysis plan are all appropriate. However, there is little information on "Ethics and Approval for the study."
Comment: I feel the authors need to point out here what and where the obtained permission or approval for the study.

RESULTS
This is fairly well-written and presented. However, there are a few concerns that requires further clarifications.

6) "The new TB cases and the rate were 79,466 and 6.36% for five years, of which, the annual TB rate were 7.49% 6.71% 6.80% 5.81% and 4.97% respectively"
Comment: These figures needs to revised for clarity as they are not clear. Other figures with similar confusion with figures elsewhere in the text need to be revised for clarity.

DISCUSSION
6) "In addition, the rural population and the rural population showed positive effect on TB prevalence."
Comment: Please, kindly rephrase for clarity

7) "Furthermore, people are generally active in the air-conditioned rooms where ventilation limited because of high temperature, which is easy to cause the spread of MTB."
Comment: This hypotheses/statement need to be supported by suitable reference/s

8) The authors need to include a paragraph summarising the Limitations of their study, its design, findings and its interpretation.

9) The manuscript will benefit from a substantial major English language Edit to ensure consistency in style and grammatical corrections.

10) References are adequate and well-written

ADDITIONAL REQUESTS/SUGGESTIONS:
As stated in the commentary above

Note: This reviewer report can be downloaded - see attached pdf file.

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

Yes
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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 am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

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5. Do you have any other financial competing interests?

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