In their Manuscript entitled "Epidemiology of Anti-tuberculosis Drug Resistance in a Chinese Population: Current Situation and Challenges Ahead", Shao et al. investigated the epidemiology of first-line anti-TB drugs resistance among 1824 sputum smear positive pulmonary TB patients from the Jiangsu Province, China. This is a well written paper, providing important information on the epidemiology of first-line anti-TB drugs resistance in a large region of China. Samples were collected based on the WHO/IUATLD Guidelines between May 1, 2008 and December 31, 2008. Potential risk factors for multi-drug resistance (sex, age, area of residence, history of treatment, tobacco smoking, and alcohol consumption) were analyzed. The authors found that the prevalence of MDR-TB was 16.61%, alarmingly higher compared to the rest of the country. Risk factors associated with MDR-TB were previous treatment history, young age, alcohol use and region of living. These findings make up an important article to those with closely related research interests.

I propose that this study should be accepted for publication based upon Major Compulsory Revisions. My comments and recommendations are the following:

1. The aim of the study, to provide information for the Jiangsu region, not previously included in the Chinese surveillance system, is well defined.

2. The methods used for sampling and data, have been developed by the WHO/IUATLD, and are appropriate and well described. Authors should provide reference for the sampling method and the DST proportion method and critical drug concentrations used (eg. the 2008 WHO/HTM/TB/2008.392). Did the authors perform any molecular techniques regarding M. tuberculosis identification and drug-susceptibility testing, and if yes, which?

3. The data obtained are clearly presented in the Results section. Some points that should be clarified include:

   a. Was non-tuberculosis mycobacterium cases (n=24) identified based solely on PNB growth? Were these isolates identified at the species level? If an additional method was used, it should be included in the Methods section.

   b. Apart from drug mono-resistance, it would be interesting to present "ANY" drug resistance, at least for INH and RIF (table 1). Wouldn't it be better to show this in a pie chart or another graph?

   c. Please include p values described in the text (page 9), also in Table 2
(statistical significance between new cases and previously treated).

d. Based on the patient location, proportion of MDR among new cases in the south region, seems to be significantly less compared to the other two regions vs. what is being described for the previously treated cases (Table 3). Please add a comment on the possibility of primary transmission of MDR-TB strains.

e. Please change “P for rend” to “P for trend” (Table 4)

f. If any data are available for quinolones or injectable drugs (amikacin/capreomycin), it would be of special interest to be included.

g. It would also be of great interest to report data regarding native population vs. immigrants, as Jiangsu is a province absorbing a large number of non-permanent residents. What is the OR for MDR-TB of the moving population vs. native population?

4. The discussion and conclusions are adequately supported by the data, however, some parts of the discussion could be shorter in extent.

a. Additional explanation should be given regarding the higher proportion of MDR-TB in the central and northern parts of the province compared to the southern. Why is there such a difference for younger patients in the south region (page 12)?

b. What do the authors mean with “equivalent mono-therapy or bi-therapy” (page 12)?

c. Please give examples of specific rapid techniques needed (page 12)

d. Again, why is there such a difference between the south and central/northern regions in the proportion of patients with previous treatment among different age groups (pages 13-14)?

6. Limitations of the work are clearly stated in the last part of the discussion. Lack of evidence for XDR-TB prevalence, is an important limitation of the study.

7. The title and abstract are accurately describing what has been found in the study

8. In general, the manuscript language is acceptable. However, the language has specific problems and grammatical errors which should be corrected. For example:

-Abstract, background (page 2, line 3): “…a cause of concerns on tuberculosis…” could be replaced by “a cause of concern for tuberculosis…”

-page 2, second line from the end, and throughout the text: “middle part” to “central part”

-page 4, line 5: “the first two countries were India” to “the first two countries being India”

-page 6, line 1: “in this study, we aims to…” to “The aim of the present study was to…”

-page 7, last line, page 8, first line: “the bacilli are not belonged to the MTB complex” to “the bacilli did not belong to the MTB complex”
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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.