

## Peer Review File

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### Reviewer A

Research on tuberculosis and malnutrition. The nutrition scales used in this study are also not commonly used for tuberculosis risk assessment, so I am not sure what clinical significance it is to create a new more accurate scale.

1. I think it would be better to make table 1 a supplement table.

**Answer 1:** Thank you for the critical suggestion and allow us to make revisions accordingly. We have updated the table 1 as a supplement table, and rearranged the tables in order in the manuscript.

2. In the multivariate analysis, only 11 variables were put in and analyzed, but did all of them show meaningful p-values? What are the criteria for selecting variables for multivariate analysis?

**Answer 2:** Thank you for your insightful remark. In the multivariate analysis, all of the 11 variables show meaningful p-values. And we selected variables with p-values less than 0.3 in univariate analysis as candidate variables for further screening in multivariate analysis.

3. Figure 2 and figure 3 seem to have similar content, so it is recommended to properly combine the two or omit one.

**Answer 3:** Thanks for your critical suggestion and allow us to make revisions accordingly. We have combined the Figure 2 and Figure 3, renamed as “Figure 2-revised” and reordered the Figures in the manuscript.

4. In figure 3, the difference between nutrition risk and malnutrition should be explained in the text and figure legend.

**Answer 4:** Thank you for your kind reminder. We explained the difference between nutrition risk and malnutrition in the part of “#Methods/###NRS 2002 and GLIM evaluation” (see page 6, line 166-177).

5. All of the patients in this thesis were active TB patients. How did you find the sensitivity and specificity for diagnosing active TB in figure 4? To see the usefulness of diagnosis, a new nutrition scale should be applied between TB and non-TB control group, but in this study, there is no non-TB control group in the subject.

**Answer 5:** Thank you for your kind reminder. In this thesis, we used the NRS 2002 screening test as a gold standard and score 14 as the cut-off value of having nutritional risk or not having nutritional risk to statistic the sensitivity and specificity of the new model for the diagnosis of PTB patients having nutritional risk in order to demonstrate that the new model could be appropriately used to screen the nutrition risk for a patient with active PTB. And in the following study, we will further verify the validity of the new model.

6. Figure 5 omits the description of Groups A and B. In addition, there should be an explanation for that part in the text.

**Answer 6:** Thanks for your critical suggestion and allow us to make revisions accordingly. We have added the description of Groups A and B in the text (see page 23, line641-642).

### **Reviewer B**

Thank you very much for the opportunity to review this excellently written multicenter cross-sectional study evaluating the nutritional status of patients with active pulmonary TB in China, a country with a high disease burden as well as the creation of a sensitive and specific nutritional risk screening model for individuals with active TB.

Malnutrition and TB are major issues in many regions of the world, and it is critical to analyse how these two issues interact with one another.

The introduction, methodology, results, and discussions are detailed and well-illustrated.

Although, the nutritional risk screening model constructed for TB patients had a diagnostic sensitivity of 97.6% and specificity of 93.1%, the addition of the positive and negative predictive values at the same cut off point will be valuable.

Overall, very good and relevant research.

**Answer:** Thank you very much for your hard review and high evaluation of the research on this article, we will continue to make efforts to contribute to the scientific research of tuberculosis nutrition.

### **Reviewer C**

#### **1. Main text**

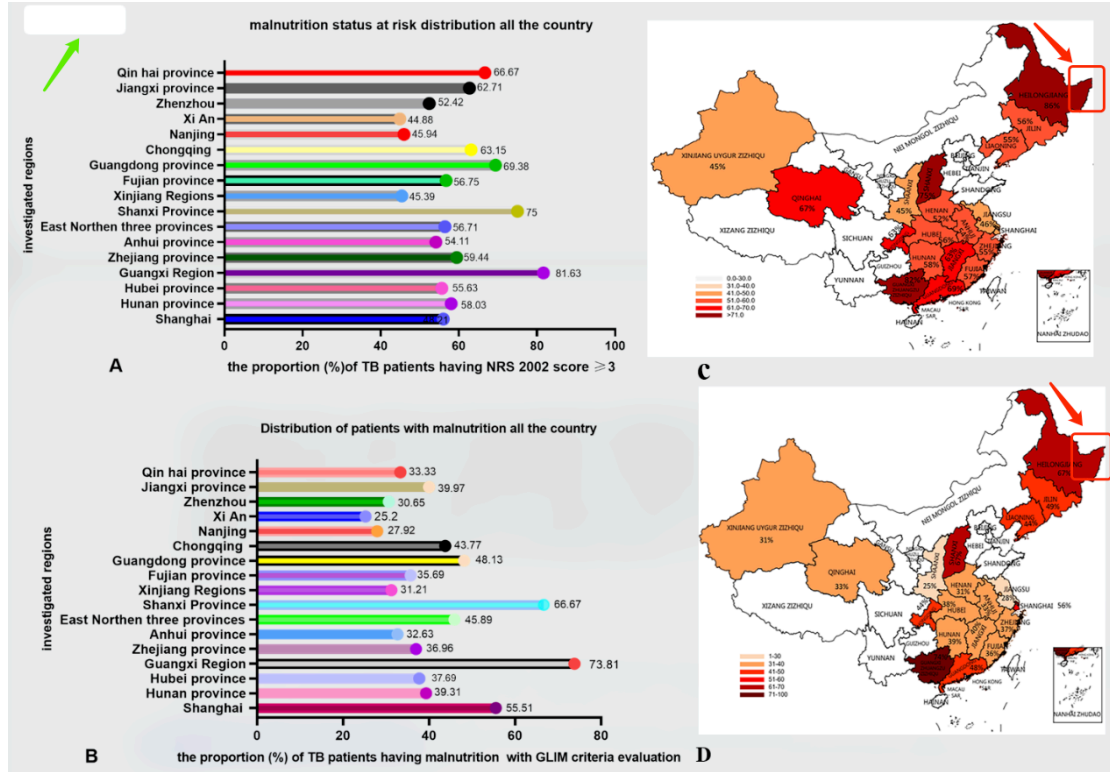
Xi'an is in Shaanxi province, not Shanxi, please check.

308 respectively, in Xi'an city, Shanxi province of middle-western China, the regions with

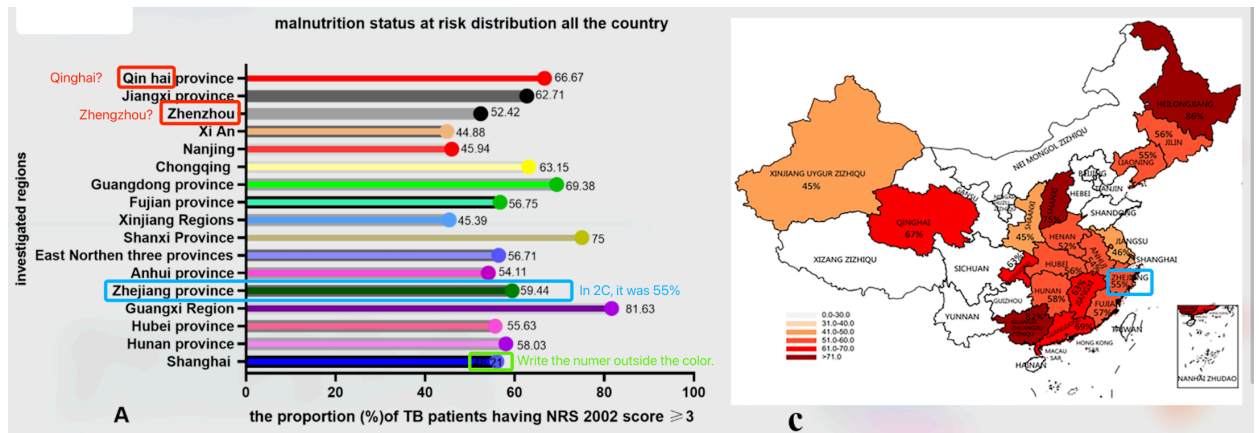
**Answer:** Thank you for your kind reminder. We have checked and revised this.

**2. Figure 2**

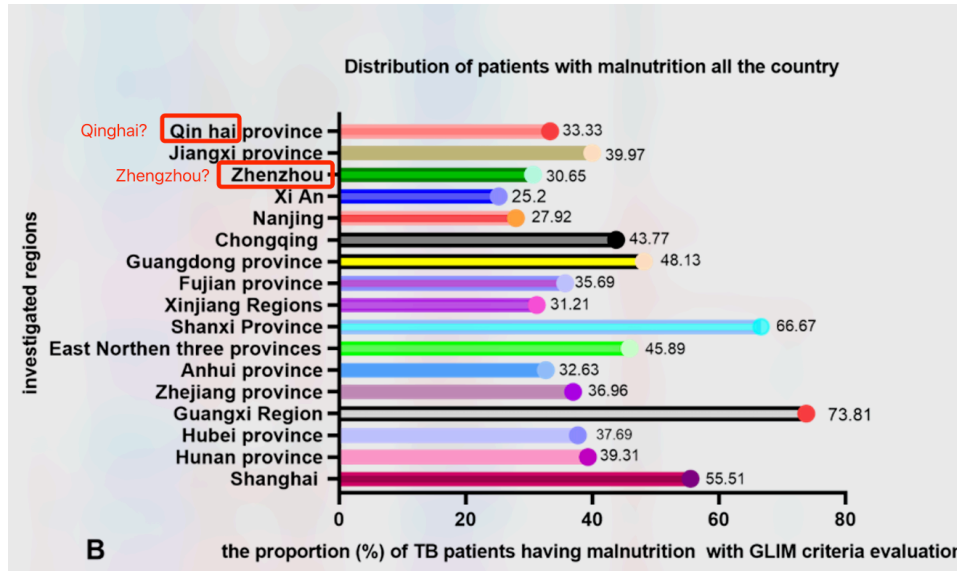
- a) Please provide a complete and clearer version of 2C and 2D, it seems that some parts (red arrows in the below screenshot) are not complete.
- b) Please remove the box (green arrow in the below screenshot).



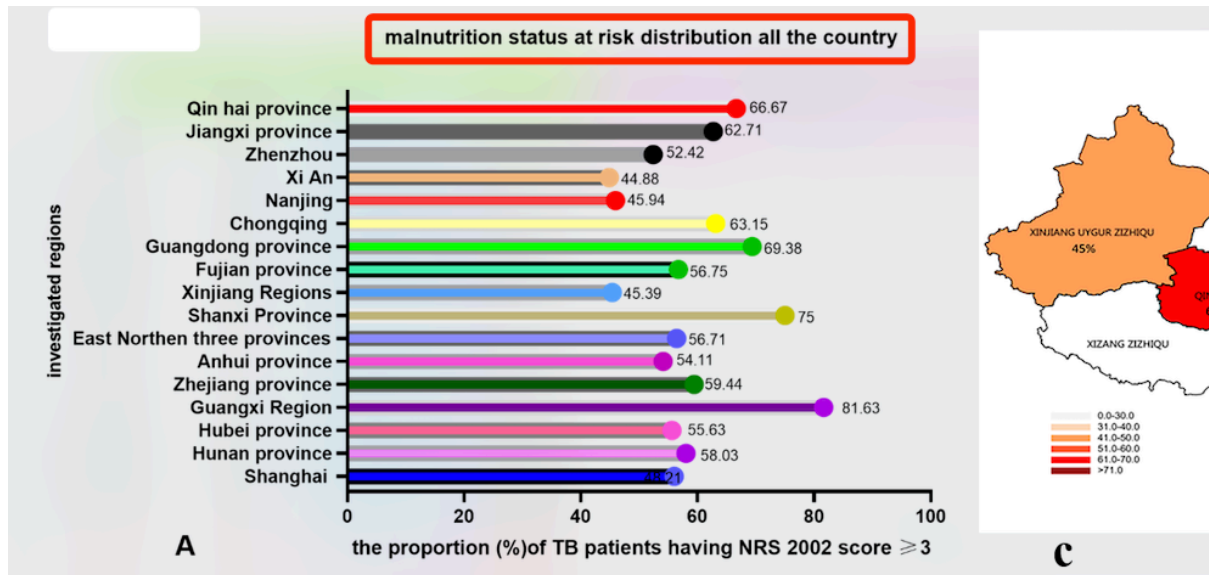
- c) Please double check the spelling of the city name in 2A. (Red boxes in the below screenshot)
- d) Please check the data of Zhenjiang province in 2A and 2C. (Blue boxes in the below screenshot)
- e) Please write the data of Shanghai outside the color in 2A, as it is difficult to read in the current version.



f) Please double check the spelling of the city name in 2B. (Red boxes in the below screenshot)

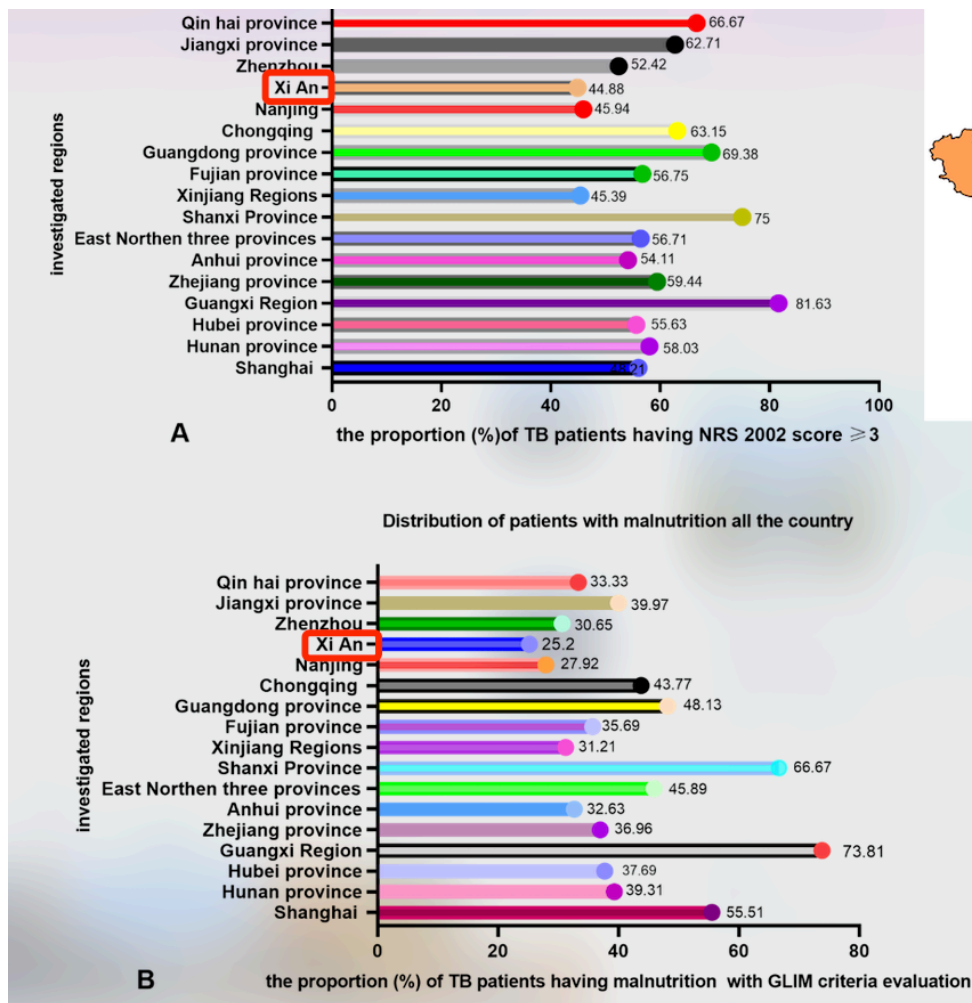


g) Please check if this title should be removed in 2A.



h) In 2A and 2B, Xi An should be revised to Xi'an, please revise.

**Answer:** Thank you for the critical suggestion and allow us to make revisions accordingly. We have revised the Figure 2 according to the "a)/b)/ c)/ d)/ e)/ f)/ g)/ h)" required, renamed it as "Figure 2-revised", and replaced the original one in the main manuscript.

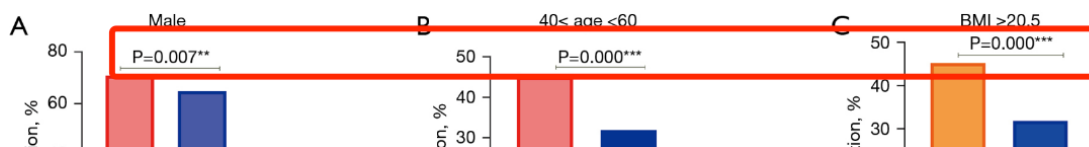


### 3. Figure 4

- Please explain TB, RFP, DM, and PTB in the legend.
- Please check if the p value is correct in the legend.

700 ~~between from NRS 2002  $\geq 3$  (Group A) and NRS 2002  $< 3$  (Group B).~~ \*\*,  $P < 0.01$ ; \*\*\*,

701  $P < 0.001$ . NRS 2002, Nutrition Risk Screening 2002; GLIM, Global Leadership



**Answer:** Thanks for your critical suggestion and allow us to make revisions accordingly. We have added explain about TB, RFP, DM, and PTB, and revised the p value in the legend.

### 4. Table 1

Please add the description to the table footnote that how the data are presented in table.

Sex (male)	9.858 (66.00)
Age, years	47.49±18.22
BMI, kg/m <sup>2</sup>	20.56±3.22
The history of drinking	1,866 (12.49)

**Answer:** Thanks for your kind reminder. We have added the description to the table footnote.

## 5. Table 4

Please check if the “i” should be explained in the table footnote.

	Reference value	$\beta_i$	P	Sc
		0.475		
1			0	0

**Answer:** Thanks for your kind reminder. We have checked and deleted the ” i” in table 4.

## 6. References/Citations

a) Please double-check if citations should be added as you mentioned “some studies”.

\*Please note that the references should be cited in order of their appearance in the text. If the studies are not included in the reference list, please also update the current version.

97 India (8). **Some studies** have indicated that interventions with high-energy supplements  
 98 such as a high-cholesterol diet, vitamins A and D, and multiple micronutrient  
 99 supplements can help patients with active TB gain weight. However, there is

b) Please double-check if more studies should be cited as you mentioned “studies”. OR use “study” rather than “studies”.

392 **#Conclusions**  
 393 PTB is a chronic infectious and consumptive disease; **studies** have pointed out that  
 394 malnutrition is widespread among TB patients as they are likely to have malabsorption,  
 395 which can directly influence the energy intake that results in proteolysis and lipolysis;  
 396 the latter is closely related to immune regulation in the host (19). However, how to  
 484 diseases (32,33). **Several studies** have also focused on comparing the value of GLIM  
 485 and NRS 2002 and reported GLIM is acceptable for malnutrition diagnosis, whereas  
 486 NRS 2002 is appropriate to screen out patients with nutritional risk (34); however, in

**Answer:** Thanks for your critical suggestion and we have made revisions accordingly.

- We have checked and revised by using the "Track Changes" function of my word processing program. (see page 4, line 98-102)
- We use “study” replaced “studies”

## 7. Ethical statement

As the current study is a multi-center study, please add this sentence “All participating hospitals/institutions were informed and agreed the study.”.

~~appropriately investigated and resolved. This study was approved by the Ethics Committee of Shanghai Pulmonary Hospital, Tongji University School of Medicine (No. K20-431). the ethics committee waived the requirement for written informed consent on the proviso that the privacy of patients enrolled was protected throughout the present study.~~

**Answer:** Thanks for your critical suggestion and we have made revisions accordingly.  
(see page 6, line 165-166)