Author's response to reviews

Title: Assessment of Providers' Referral Decisions in Rural Burkina Faso: A Retrospective Analysis of Medical Registry Records

Authors:

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Author's response to reviews: see over
Dear Editor:

We really appreciate the comments from the two reviewers. These comments are helpful in improving the manuscript. We have taken all the comments into consideration and addressed each comment, one by one, carefully while we revised the manuscript.

All authors have participated in the conception and design, or acquisition of data, or data analyses and interpretation, or drafting the article, or revising it critically for important intellectual content. We have seen and approved the final version. We believe that the manuscript represents an honest work. We also declare that we have no conflicts of interest in connection with this paper.

I, as the corresponding author, take full responsibility for the contents of the paper. I had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Sincerely,

Nicole Huang, PhD
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Responses to Reviewer 1:
We really appreciate your review of our manuscript. The comments are very helpful in improving the presentation of our study. We have tried to address each specific comment in our manuscript.

Comments
1. As advised, we explained the training of HC staff in the National Guidelines in the revised manuscript. The description reads as, “The training of HC staff in the National Guidelines is a 5-day training program. Each session enrols 20-30 providers. Every HC staff is required to attend the training program. The training contents include diagnosis of prevalent diseases/conditions, construction of a decision algorithm, use of the clinical guidelines, identification of the “gate symptom/sign,” prescription of corresponding treatment, and making a referral according to the guidelines. One weakness of the training is that it does not include a practice session at a district hospital. However, the trainees receive post-training supervision from instructors and quarterly supervision from the district management team.” Please see the 3rd paragraph on page 6.

2. As advised, we re-analyzed the data to correct our analyses for “cluster effect.” The STATA command, CLCHI2, was applied. We conducted cluster-adjusted $\chi^2$ test for referral appropriateness of severe malaria in children and that of pneumonia in adults. For severe malaria: the adjusted $\chi^2 = 2.9357$ and P-value = 0.0866. For pneumonia: the adjusted $\chi^2 = 77.0253$ and P-value < 0.001. Please see the last paragraph on page 7, and Table 3 & 4 on page 18.

3. As advised, we have had a professional English editor, Dr. Ralph Kirby, to proofread the revised manuscript before our resubmission.
Responses to Reviewer 2:

Thank you for raising the critical issues related to providers proficiency to use the clinical guidebook. We acknowledge that our conclusions or recommendations will be stronger if these issues would have been explored. However, since our study analyzed patient’s medical records retrospectively, we lack the information on providers behavior related to actual use of the guidebook when they received a patient’s visit. Although your suggestion to categorize providers into two groups (users and non-users) is very relevant, the data limitation and study design does not allow us to do so. We acknowledge this as one of our limitation in the revised manuscript. We believe that further studies with a prospective design can help to contribute in this regard.

Concerning the staff awareness of and training in the clinical guidebook, all the providers received a five days training in the use of the clinical guidebook. They were also supervised quarterly by the district management team. According to our administrative notes, while we inspected the selected HC, the guidebook was always present in each of the study site and there were at least 2 guidebooks available in each site. For all these reasons, we were confident that HC staffs are aware of the guidebook and trained for the guidebook. However, we were not so confident that their level of knowledge about the contents of the guidebook (e.g. whether they were skilled to conduct a good clinical examination to find out some critical signs necessary to make the right diagnosis) or their actual use of the guidebook when they attended patients.

Therefore, in respond to the issues raised, we revised the manuscript as the following:

1. The objective: we revised the objective to be more specific. The revised objective reads as, “Based on the above, this study aimed to assess how coherent these HC staff diagnosed or made a referral decision according the clinical guidebook for two indicator conditions, severe malaria in children and pneumonia in adults. The guidebook served as a standard to evaluate correctness and appropriateness of provider’s diagnoses and referral decisions in HCs.” Please see the 1st paragraph on page 4.

2. The Methods: we added more explanation of the training of HC staffs in the guidebook. The description reads as, “The training of HC staff in the National Guidelines is a 5-day training program. Each session enrols 20-30 providers. Every HC staff is required to attend the training program. The training contents include diagnosis of prevalent diseases/conditions, construction of a decision algorithm, use of the clinical guidelines, identification of the “gate symptom/sign,” prescription of corresponding treatment, and making a referral according to the guidelines. One weakness of the training is that it does not include a practice session at a district hospital. However, the trainees receive post-training supervision from instructors and quarterly supervision from the district management team.” Please see the 3rd paragraph on page 6.
3. In Discussions: we acknowledge the limitation that we do not have information on staff’s knowledge level or actual use of the guidebook when they attended patients. The added limitation reads as, “Fourthly, due to the retrospective design of the study, information on the staff’s knowledge level or their actual use of the guidelines when they attending patients is not available. Thus, this study is unable to disentangle the reasons behind the incorrectness/inappropriateness of the provider’s diagnosis/decision. Future research using a prospective design may help in this regard.” Please see the last paragraph on page 12.