Author’s response to reviews

Title: Predictors of antibiotics co-prescription with antimalarial for patients presenting with fever in rural Tanzania

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Author’s response to reviews: see over
Predictors of antibiotics co-prescription with antimalarial for patients presenting with fever in rural Tanzania

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Referee 1:
Comment 1:
Page 3: First sentence of the second paragraph not very clear, may wish to consider rephrasing.

Response
The sentence has been rephrased as suggested and now reads;
Fever has been used as a major clinical symptom for malaria (3). Now reports shows that malaria has been declining (4), while fever remains as a major complain in many outpatients clinical settings (5). This high prevalence of fever may still be presumed as malaria, hence a need to strengthen confirmation of malaria in order to target use of antimalarial drugs to confirmed cases only.

Comment 2:
Page 5: Study design section, incomplete sentence when referring to 'demographic characteristics' 

Response 2:
The sentence has been completed and restructured and now reads as follows;
At recruitment and after obtaining the informed consent for participation in the study, patient demographic characteristics were collected. Further more information on all medicines prescribed at that encounter, the mode of diagnosis of malaria, presenting signs, symptoms and co-diagnoses were recorded.
Comment 3:
Page 10: conclusion section, first sentence in first paragraph, though an acceptable statement of fact, may seem to suggest misuse of antibiotics was found, however discussion of results made no mention of estimated levels of malaria and bacterial co-infections, may wish to consider rephrasing

Response
I accept and the conclusion has been rephrased to accommodate the suggestion.

Major compulsory Revisions
Referee 2:
Comment 1:
- Expand discussion on predictors of antibiotics. Use figure 2 and explain if predictors were different in the 3 groups

Response
The discussion has been expanded especially in three groups explained in figure 2 and here is how partly it reads;
Findings from this study shows that presumptive treatment was done for all age groups; under five and those above 5 years. Similar results of presumptive treatment for malaria patients above 5 years was fund in study done in Kenya (14). Presumptive treatment is commonly due to lack of laboratory expertise and commonly done in high transmission areas (27). This study shows 20% of patients who were treated with AL were negative, this might be due to poor training of laboratory technicians and poor slides management which leads to mistrust of results and hence clinicians dispensing AL basing on clinical symptoms (26). Also reported that in some cases clinicians tends to use “mind lines” instead of guidelines when it comes to malaria treatment (28).
Comment 2:
- expand conclusion on predictors and implications for each group of figure 2

Response
The conclusion has been expanded and explanation of groups of figure 2 added as follows;
Co prescription of AL and antibiotics were most commonly done on children below five and those who tested negative for malaria. Those not tested the judgement on co prescription was done basing on clinical symptoms.

Minor Essential Revisions
Discretionary revisions
Comment 1:
- Expand recommendations, especially those that are related with the predictors for each category using AL + Antibiotics in figure 2. Therapeutic and programmatic implications seem different for each group.

Response:
Recommendations have expanded to cater for suggested changes; part of the expanded recommendation is;
Authorities should strengthen the capacity of laboratories and laboratory technicians to have laboratory results trusted by clinicians since currently clinicians prefer clinical symptoms to laboratory results especially when they are not congruent. This will increase the number of patients being tested for malaria and clinicians will use laboratory confirmation than clinical symptoms and hence reduce unnecessary co- prescription.
Comment 2:

- some of the comments in the first part of the conclusions are not very related with the predictors of Antibiotic use but on use of antimalarials, suggest to reduce

Response
The conclusion has been rephrased and that part has been removed

Referee 3:
Comment 1:
One thing that struck me immediately was lack of direct reference to the current national policy, guidelines for malaria case management wherein issues like prescribing with or without parasitological testing are handled. The Ministry of Health Website is deficient in access to such documents, but one assumes the authors can find and quote from the latest versions.

Response
In the revised version direct reference to Tanzania Guideline on malaria diagnosis and treatment is done in the introduction, in discussion and even conclusion

Comment 2:
The issue of treating people for malaria even if their results were negative is a common problem, and there are published reports on reasons. Commonly even when trained, health workers often do not trust the tests, but prefer their clinical judgment as a guide.

Response
The comment has been accommodated in the conclusion, see last sentence of conclusion pg10.
Co prescription of AL and antibiotics were most commonly done on children below five and those who tested negative for malaria. Those not tested the judgement on co prescription was done basing on clinical symptoms.
**Comment 3:**
A key conclusion or discussion point should be the review of national case management guidelines

**Response**
It has been accommodated in the revised conclusion and partly in the discussion. See the first part of the conclusion in pg10.

Fever has remained the major reported symptom for patients suspected with malaria in rural Tanzania. Presumptive treatment is still commonly practiced for both under five and those above five regardless the Tanzanian guideline allowing only presumptive treatment for under five children. With the fact that malaria is declining, clinicians should follow the national treatment guidelines and use presumptive treatment only when there is no laboratory or rapid diagnostic tests.