Reviewer’s report

Title: Prescriber and patient-oriented behavioural interventions to improve use of malaria rapid diagnostic tests in Tanzania: facility-based cluster randomised trial

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Reviewer: imelda bates

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Reyburn paper review 16jan15
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The research question proposed by the authors builds on a body of existing research, including by these authors, which has shown that clinicians often ignore negative results of malaria RDTs. This results in overprescribing of anti-malarials and failure to treat other causes of fever appropriately. The research in this paper focuses on an effort to reduce this inappropriate use of malaria treatments by evaluating two interventions involving behavioural measures to encourage clinicians (+/- patient involvement) to treat only RDT-positive malaria cases. The authors have already conducted and published substantial preliminary work to determine the components of the intervention packages. I am not aware that any duplication or plagiarism has occurred.

The methods are appropriate for the research question and incorporate a pragmatic approach (e.g. rotating staff through the trial arms as blinding was not feasible) which is important for potential scale up and sustainability of the intervention. The data are sounds and the interventions are controlled through a cluster-randomisation design with standard training in RDTs as the control arm. The tables and figures are comprehensive and necessarily detailed given the complexity of the trial; additional files provide supplementary data. The discussion and conclusions are based on the data provided and the title and abstract are appropriate.

Revisions:

Minor essential

Abstract

1. Clarify in the that the main problem is over-prescribing of anti-malarial in the face of a negative RDT result
Background

2. ‘formative mixed-methods research’. This approach needs explaining – it is clarified by reading the reference 19 outlining how the intervention was developed, but not all readers will access that information.

3. One reason for clinicians ignoring the RDT results is that they may not trust that they are accurate. Some information about the ‘real-life’ accuracy of RDTs in this sort of setting is therefore required.

4. The practical implications of adding in the patient component of the intervention are not clear – were the patients supposed to query to prescriber if they felt they were not getting the appropriate advice/treatment?

Methods

5. Typo - ‘very poor in this in previous’

6. ‘Consenting patients’ are mentioned but many data were from children so information needs to be provided about the consent process for them.

7. It would be helpful to know how many facilities there were in total in the catchment areas, and how many were considered for inclusion before the final decision about eligibility was made. Were they all government facilities since the RDT training was provided by the government? Apart from this the inclusion criteria are well described.

8. There is some lack of clarity and inconsistency about the term ‘prescriber’, ‘health worker’, ‘workers’, ‘providers’, ‘colleagues’ and representatives from facilities (results, para 2) – how do these differ, and how do they relate to each other, and what are their roles in the study? Because of the diversity of these terms it is not always clear who and how many of the different cadres were trained or contributed to the data obtained in the study (for example in the ‘implementation of the intervention’ section). It is therefore not possible to get a clear idea of the proportion of total health workers in the facilities that were actually involved in the study and the training they received.

9. The purpose of recording the stock-outs is not clear. Since the research team were providing supplies through the trial why did stock outs occur at all? If stockouts are a significant problem in routine facilities, the effect of this on implementing the study findings on a large scale could be covered in the discussion.

10. The purpose of the SMS and feedback summary to providers provided by staff is not clear in the methods, although the purpose can be partly deduced later in the paper. Was this data included in the final analysis?

11. More information is needed about the process for checking blood slides and the number of slides checked, since they were used for quality assurance of the RDTs.

12. Some information should be included about the contexts of the survey administrated by interviewers to those exiting the facilities.

13. More information is needed about the observations of provider performance.
including the length of time they were observed for, how patient interactions were observed and what was actually being observed (e.g. was there an observation checklist?)

Discussion

14. A description of the suggested intervention for scale up should be included outlining the potential challenges to be considered if this is taken up outside a trial setting, as well as the benefits.

Table 3

15. Add in information about the actual timing and duration of the ‘periods’. These also appear in figure 1 – maybe consider having a text box with the timings.

Figure 1

16. The components of the 3 modules need to be explained.

Major

None

Discretionary

17. It may be helpful to readers to explain that part of the problem of over-prescribing of ACTs may be related to a lack of diagnostic and treatment options for non-malaria fevers.

18. The finding that 21% of those who were afebrile and tested, had a positive RDT is interesting and the authors may consider expanding on this in the discussion.

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.