Reviewer’s report

Title: Evaluation of Fluorescent In-Situ Hybridization Technique for Diagnosis of Malaria in Ahero Sub-County Hospital, Kenya 2016

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Reviewer: Alexandre Manirakiza

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Evaluation of Fluorescent In-Situ Hybridization Technique for Diagnosis of Malaria in Ahero Sub-County Hospital, Kenya 2016

by Regina Kandie, Kariuki Njaanake, Rachel Ochola

This study evaluated the performance of fluorescent in-situ hybridization (FISH) assay in malaria diagnosis. Blood from patients presenting with fever of ≥37.5°C was examined for malaria parasites using RDT, GM, PCR and FISH

This manuscript is on an important topic as limited data have been published previously (see (Malaria Journal201716:297; https://doi.org/10.1186/s12936-017-1943-4). However, the methodology section has to be detailed and the results more structured to facilitate greatly their interpretation.

Hence, here are the Major Compulsory Revisions:

Methods section

This section should be more detailed.

1/ Can the authors please provide some basic demographic data for the samples (age, sex, etc)

2/ The authors should use the STARD checklist and revise the manuscript accordingly (http://www.stard-statement.org/) e.g. a more detailed description of the enrollment procedures description of the subjects enrolled should be included. Was it all fever cases? Were patients included sequentially or were some patients excluded?
2/ First, the FISH have to be evaluated using as a GOLD STANDARD for malaria detection (e.g. PCR). The authors could state the methods more clearly by providing the information about the gold standard.

3/ The authors should clarify how "false positive" or false negative" results were avoided. Were analysis performed by blinded independent technicians?

4/ Data analysis: the authors could then state which calculations were performed for the gold-standard.

Results

1/ The comment about the gold standard should be incorporated in the results.

Table 2a, Table 2b and Table 3: please the authors should make clear what the reference standard is.

2/ Malaria parasite density: Please, the authors should provide the performance of the FISHs according to the parasites density level in samples found positive by microscopy.

Discussion

The author should also discuss their manuscript according to the more recent data available in the country (Malaria Journal201716:297; https://doi.org/10.1186/s12936-017-1943-4 ).

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Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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