Reviewer’s report

Title: Incidence, causes and phenotypes of acute seizures in Kenyan children post the malarial decline period

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Reviewer: David Henshall

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Serem and colleagues examine data on admission of children with acute seizures to a Kenyan hospital. The background to the study is that malaria rates have declined in recent years and this would be expected to lower rates of admissions of children with acute seizures. The authors report data on the incidence of seizures for > 2000 children over a 5 year period. They provide estimates of prevalence and cover different types of acute seizures and their suspected causes along with other useful information on neonatal seizures and mortality. Their primary conclusion is that rates of admissions increased during the period. Overall, this is a useful dataset. I have the following comments:

1). Please mention why and how malaria causes acute seizures. Is this an indirect effect of infection-related immune or pyrexic responses or direct effects of the pathogen?

2). The authors should state what the incidence of acute seizures in children/neonates was before the decline of malaria in the region (e.g. in Introduction). How great a reduction in malaria rates has there been in the region? In Discussion, the authors state their incidence rate (312/100,000) is comparable to that in a previous study (425/100,000) but this is a substantially lower rate. So, have rates really increased?

3). With what degree of certainty are assumptions about what probably caused the seizures made?

4). The authors used the 1989 ILAE standard definitions for their classification. In light of the 2014 published definitions/standards, would this change anything substantially?

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

Yes

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.

Yes

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 recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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