Reviewer’s report

Title: Intermittent preventive treatment: efficacy and safety of sulfadoxine-pyrimethamine and sulfadoxine-pyrimethamine plus piperaquine regimens in schoolchildren of the Democratic Republic of Congo. A Randomised Control Trial

Version: 2 Date: 29 July 2013

Reviewer: Martin Meremikwu

Reviewer’s report:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. Sample size: This study makes a fair attempt to test two superiority hypotheses on malaria chemoprevention (i) SP vs control; (ii) SP+PQ vs control) and one non-inferiority hypothesis (SP vs SP+PQ). The assumptions, formulae or model applied in the determination of the sample size have been either incompletely or poorly described. The statistical assumptions for non-inferiority and superiority were alluded to but it remains unclear how the numbers were worked out (at least a reference to source of formula or method used for sample size calculation).

2. Randomization and Allocation concealment: The sentence “A randomisation list of blocks of varying size and stratified according to the number of recruitment points in each site was provided”, is not enough. How exactly was sequence of allocation generated? How was the allocation concealed?

3. Ethical issues: In describing the ethical considerations the authors refer to “other tests” to be performed with residual plasma. Are these other tests going to contribute to hypothesis testing and the objectives of the trial which the parents/legal guardians of these children consented to? Do these explain the collection of rather volume of blood from the children (3ml)? It would be helpful to submit the consent information sheet to the editors of the journal to reassure readers that all the ethical issues in this regard have been appropriately addressed and explained in the information given to these parents and their children.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Important terms have been vaguely described/defined and rather ambiguous. Examples are “malaria-induced anaemia”, “malaria infection status and morbidity”, “educational achievement”.
   • What exactly would the researcher describe as “clinical symptom of severe anaemia” (which is one of the exclusion criteria).
• It would be crucial to clearly define exactly these terms that appear in the objective statements, hypotheses and outcome indicators mean in this particular trial context.
• It is particularly needful to clearly explain the meaning of “Control” in this study.

2. Exclusion criteria overlap with some of the outcome indicators e.g. For instance “clinical malaria at baseline” is an exclusion criterion but also a subset of the #2 secondary endpoint.

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Authors could be more explicit in description of important study terms. It would be difficult for others to replicate the outcome assessments proposed in this study because several important terms and statistical processes have not been adequately described.

2. The planned statistical analysis could be more explicit; making specific reference to planned study outcomes.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

NONE