Reviewer's report

Title: Prevalence and risk factors for Plasmodium falciparum malaria in pregnant women attending antenatal clinic in Bobo-Dioulasso (Burkina Faso).

Version: 2  Date: 22 May 2014

Reviewer: Rose McGready

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This paper could be improved by exploring the data differently. The conclusions may also change.

Major comments

1. Burkina Faso has produced a significant number of publications on MiP which is great as the area has been neglected for too long. For those not local to the area it is difficult to synthesize the different groups/researchers and also the women sampled. I think a summary (perhaps a map) and a table with results of manuscripts from Burkina, area of the country, rural, peri-urban and urban, age and parity of the women, with prevalence of P. falciparum data and how it was measured (RCT/microscopy/PCR), IPTp-SP introduced (yes/no) would give a much better overview for readers than the currently ad hoc/selective referencing. This would make the manuscript more useful outside of Burkina Faso which is where the interest is currently focused because you will be able to demonstrate the significance of the detection method and pregnancy cohort to the epidemiology. Please add this table and be inclusive. You may limit the search to last 10-15 years because it is easier to appreciate if the table fits on one page. Even if this table is a supplementary table it provides a full overview of the situation and allows you space for complete referencing. This will allow more clarity in the discussion about what we know of MiP in Burkina Faso.

2. The following sentence should be amended as a quick PubMed search reveals more than a few: “However, few epidemiological studies have been conducted after the implementation of IPTp-SP in Burkina Faso to investigate malaria prevalence (6,7).”

Other studies to include have been copied to the end of these comments.

3. The sample includes an equal number of women from each trimester. As SP-IPTp is not recommended in first trimester it would be useful to
   a. Explore the number who received it in trimester one
   b. Recalculate uptake for women in 2nd and 3rd trimester

4. Women who come early in pregnancy are often not the same demographically and socially as women who present late. For example: are teenagers under-represented in the first trimester data. The data in table one should be separated by trimester as well as presenting overall. Are there differences in your sample cohort as your study is cross-sectional which has inherent weaknesses in
pregnancy which lasts for 9 months. These don’t prevent analysis or publication however the reader should be aware of them.

5. If women need to come to antenatal care to receive IPT-SP then the uptake also relates to the number of antenatal visits the woman has already had or at least the date of her first ANC attendance. A much more interesting number to present is how many visits has the woman had in 2nd/3rd trimester and how many does of IPS-SP has she received. AN effort should be made to retrieve the data of the first antenatal visit.

6. First antenatal visit is also a time when the chance to detect parasites is high – or because the woman has not yet accessed chemoprophylaxis or because she feels a bit unwell and so attends ANC. This needs to be controlled for.

7. Season of first trimester can be created for the women and should also be controlled for in this analysis given the high seasonality of malarial transmission.

8. Laboratory methods: what happened when there was discrepancy between the reading of the two malaria smears?

9. When formal schooling is so low, literacy is probably also low. How do women manage to know their LMP? Did the midwife assign LMP based on fundal height measurement? A comparison of fundal height and trimester would also be informative if you have that data.

10. Wording is more accurate as follows: “Gestational age was calculated from the first day of bleeding of the last menstrual period.”

11. Consent: the numbers in each trimester are extremely accurate. If literacy is low how do women sign? Thumbprint

12. Study flow: Did you have a policy or replacing those who refused? How many were refused? This is important to understanding the accuracy of the results. It is important to know if the sampling is representative of the population which is not known without these numbers.

13. There is no mention of these in the results section: blood pressure, paleness of conjunctiva, level of the uterine fundus and fetal heart rate.

14. Is there any opportunity to link survey data with pregnancy outcome data? Which would significantly increase the importance of the results.

15. Please confirm the dosing and duration of quinine for positive women. What is the country policy for pregnant women? Why is Coartem not used for treatment?

16. There is a high rate of peripheral parasitaemia. What implications does this have for intermittent screening and treatment? While PCR has not been done (this could be included as a limitation of the work) how do you think the level of infection would be if it had been performed. Please add to the discussion.

17. The rate of SP-IPT is way off expected uptake (this may look different with re-analysis of your data by trimester). This should be emphasized and the following article referenced (freely available). Coverage of malaria protection in pregnant women in sub-Saharan Africa: a synthesis and analysis of national

18. How can SP be efficient if uptake falls well below target?

Minor comments
1. Introduction, First sentence: Delete ‘s’ from millions
2. Parasitaemia – decimal place is not needed
3. Sometimes a comma and is used in place of decimal e.g. results (P < 0,001).
4. Table 3 Replace “ans” with “years”

Additional references:


Evaluation of antigen detection tests, microscopy, and polymerase chain reaction for diagnosis of malaria in peripheral blood in asymptomatic pregnant women in Nanoro, Burkina Faso.


Intermittent preventive treatment of malaria with sulphadoxine-pyrimethamine during pregnancy in Burkina Faso: effect of adding a third dose to the standard two-dose regimen on low birth weight, anaemia and pregnancy outcomes. Valea


**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests