Reviewer's report

Title: Risk factors for antenatal vitamin D insufficiency in an urban district in Malaysia

Version: 3 Date: 14 December 2015

Reviewer: Andrea E Cassidy-Bushrow

Reviewer's report:

Major Compulsory Revisions
1. Data was only collected over a 4-month period (January-April, 2014); while possibly not as much of an issue as it would be in a more temperate climate, this limited window of assessment may be prone to issues given rainy vs. non-rainy seasons and this should be indicated throughout the report, including the title. This is not the prevalence of Vitamin D insufficiency throughout pregnancy, unless the amount of sunlight/outdoor time is consistent throughout the entire calendar year.

2. Choice of categorization of Vitamin D insufficiency; these categories are chosen for bone health, not pregnancy health, and it is a limitation of this paper that only these categorizations are used. The authors should discuss these limitations further, as well as provide results using the continuous vitamin D level.

3. In the results, last paragraph, the use of the forecast model is not well-described; further, the definition of adequate vitamin D intake is not well described. A 0.3% reduction in risk for adequate vitamin D intake (also mentioned in discussion) – is this clinically relevant?

4. This is a small sample size study, particularly in terms of non-Malays ethnic group. The authors present large effect sizes for ethnicity, however, this may be a result of the small sample size and could be due to chance alone. The authors should provide a descriptive table comparing the different ethnicities with respect to variables in Table 1. Simple multivariable adjustment may be insufficient for controlling for differences across ethnicity in this population. Suggest that the authors provide estimates for the risk factors for low vitamin D/vitamin D level only within the Malays ethnic group.

5. Overall, the language is hard to read and would benefit from editing.

Minor Essential Revisions
Data in table and text (results) do not correspond – for instance, mean age is slightly different.

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

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests