Reviewer’s report

**Title:** Trajectory of vitamin D status during pregnancy in relation to neonatal birth size and fetal survival: a prospective cohort study

**Version:** 0  **Date:** 14 Mar 2017

**Reviewer:** Nicholas Olomu

**Reviewer's report:**

**General comments.**

The authors set out to study the associations between vitamin D status in both early and late pregnancy, as well as change in vitamin D status during pregnancy with neonatal small for gestational age status, low birth weight and preterm delivery. They also set out to study the associations between vitamin D status in early pregnancy and pregnancy loss.

This was a prospective cohort study design.

The study design is well suited for the research questions and objectives

The outcome measures studied were clearly defined.

The manuscript is generally well written.

**Minor Concerns**

There are subtle differences between numbers in the text and in Table 1

Lines 214 to 216: This sentence may be more meaningful if the word 'adjusted' is changed to 'adjustment' or 'adjusting'.

**Other Concerns**

1. Women that terminated their pregnancies, were lost to follow-up or had multiple gestation were excluded from the analysis. Were these women different from those included in the analysis? What were the reasons for termination? Were the vitamin D levels in women excluded from analysis different at any time from those in the study?

2. Gestational age was determined by routine ultrasound in the second trimester. The sole exclusion criteria was pregnancy exceeding 16 weeks at inclusion. How accurate are the
2nd trimester ultrasound scans for dating pregnancies? If the women were recruited from gestational age 4 weeks, is there a reason the scans were not done earlier?

3. The authors should speculate on the possible mechanism(s) by which vitamin D levels in late pregnancy and vitamin D status trajectory affect the pregnancy outcomes they studied.

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 am able to assess the statistics

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

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