Reviewer’s report

Title: Prepregnancy BMI and Risk of Preterm Birth: Association Heterogeneity by Preterm Subgroups

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Reviewer: Asma khalil

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Journal: BMC Pregnancy and Childbirth
Author: Parker M et al
Title: Prepregnancy BMI and Risk of Preterm Birth: Association Heterogeneity by Preterm Subgroups

The manuscript is well written. However I have a few comments:

Major Compulsory Revisions:

• The authors identified an association between pre-pregnancy obesity and medically induced PTB. They state that this association was “modestly attenuated” after adding hypertensive disorders of pregnancy and gestational diabetes to the model. In fact, these two conditions largely (almost completely) explain the association; this is what most practising obstetricians expect, and is what their data show. Given this, they should consider altering the word “modestly” to “largely” or similar (Page 10, Line 7). Similarly, they might re-ward the relevant sentence in the Discussion section (Page 11, Line 9). Also in the Conclusion section, the word “partially” should be replaced by “largely” (Page 13, last Line)

• Another of the authors’ notable conclusions is that pre-pregnancy obesity was associated with an apparent reduction in spontaneous PTB. I question whether this is truly and an independent association. Of all PTB, a third were induced for medical reasons. This will almost certainly have removed from the study population a proportion of women who, had they not had delivery expedited iatrogenically, might well have been destined for spontaneous PTB. This means that those with ongoing pregnancies would, as a group, be expected to have a lower rate of spontaneous PTB. In other words, the finding of an increased risk of medically induced PTB directly leads to the finding of a reduced rate of spontaneous PTB in the remaining women. I think that this is an important point, because as the paper is currently written, the reader might well be left with the conclusion that pre-pregnancy obesity directly protects against spontaneous PTB.

• Discussion, Page 13, Line 3: The authors recommend that “a continuum of gestational ages should be examined”. I would suggest that this analysis should be added to the manuscript.
Minor Essential Revisions:
• Title: BMI should be spelled out.
• Abstract, Background: BMI should be spelled out the first time it is used, instead of in the following section.
• Abstract, Results: the 95% CI for underweight contains 1 (not Significant).

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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.