Dear Dr Graham,

We thank the referees for their valuable comments. We feel that we were able to address their concerns satisfactorily, and we are now submitting a considerably improved manuscript.

Reviewer: Cuilin Zhang
1) page 1, Abstract, last sentence—As a meta-analysis of observational studies, causality is unlikely to be addressed. Would suggest remove the phrase ‘but to help investigate causality’

• page 1 Abstract, last sentence: The phrase ‘but to help investigate causality’ was removed

2) page 2, paragraph 1, line 1: the definition of GDM: insert ‘first’ between or and recognition

• page 2, paragraph 1, line 1: The word ‘first’ was inserted between ‘or’ and ‘recognition’

3) page 2, paragraph 2, line 1: predisposing factors should be “advanced age, non-Caucasian race/ethnicity, and family history of type 2 diabetes”

• page 2, paragraph 2, line 1: The sentence was rephrased: “Many predisposing factors, such as advanced age, obesity, non-Caucasian ethnicity, and family history of type 2 diabetes have been associated with an increased risk of gestational diabetes [10,11].”

4) page 3, paragraph 1, line 3: insert ‘in’ between “36%” and “UK”

• This sentence was removed in addressing a point made by the other reviewer.

Major Compulsory Revisions

The diagnosis criteria of GDM changed over years and varied across studies included in the present study. The authors acknowledged this fact in the discussion, but did not discuss how the inconsistency of the diagnosis criteria across studies may affect the meta-analysis results on cigarette smoking-GDM association and in which direction. Would suggest ‘add one or two sentences’ to
discuss this.

- In the meta-analysis of adjusted measurements, three studies used the same diagnostic criteria (3-hour OGTT) and only one study used a 2-h OGTT. As seen in Table 3, by excluding Wendland et al., we get the summary odds ratio based on the 3h test. A sentence was added to clarify this and to state that there is no evidence that the type of diagnostic test modifies the association (page 7, last paragraph).

Reviewer: Paul Terry

Minor Essential Revisions

1. The English in this manuscript is relatively good, but suffers on occasion. For example, page 6: We excluded… that did not access the exposition before outcome.” Did you mean “access the exposure before the outcome?” Page 3: “varying” should be “varies”? Page 4: what do you mean by “controlled” observational studies that examined crude associations? Page 9: by “negative” do you mean “null?” Additional proof-reading is encouraged.

The English in the manuscript was reviewed by a native speaker.

Done, in the revised version:

- page 6, paragraph 2: The word “exposition” was replaced by “exposure”

- page 3: “varying” was replaced by “varies”

- page 4: the sentence was rephrased as: “We included all observational studies that assessed the association between smoking cigarettes …”

- page 9: ”negative” changed to “null”.

...
2. Page 6, top: I would think that the fact that the prevalence of smoking does or does not vary across geographical regions / countries does not, in itself, mean anything unless you’re planning an ecological study. Please clarify.

• Page 2, last paragraph : The sentence about prevalence of smoking were removed.

3. Please reference all studies that were considered but excluded. It sounds like you excluded some case-control studies, studies of other tobacco use, and other studies that may be relevant to the overall picture. Even if you don’t include them in your meta-analysis, please cite ALL relevant studies that were considered for inclusion.

• All studies that were considered but were excluded have now been referenced (see page 6, first paragraph of “Results” section). As the question formatted for this systematic review was focused on cigarette smoking during pregnancy, studies reporting tobacco products other than cigarettes were excluded (see, page 4, “Criteria for considering studies”).

4. Perhaps a few words about the quality, type and range of smoking exposure assessment in the studies you included in the meta-analysis.

• Information about smoking range is described on page 7, in paragraph 1. We added a sentence to state that none of the studies evaluated provided information about type of cigarettes smoked.

5. The results for studies that controlled for confounding factors in the abstract do not match those in the text in the following way: the results you claim were from 3 studies in the abstract were clearly from 4 studies in the text. Please correct.

• The number of studies was corrected in the abstract.
6. The authors speculate (page 9) about the effects of quitting smoking as a potential source of bias. First, please note that some studies have accounted for quitting, and should be mentioned here. Second, bias due to weight gain would tend to show a positive association between quitting and GDM, not necessarily smoking and GDM. Please clarify.

• We have now mentioned the results of studies that explicitly analyzed the category of those who quit smoking in pregnancy. The last paragraph of page 9 was rephrased to clarify the importance of the moment at which smoking was measured during pregnancy and possible biases related to this issue.

7. In the discussion, I would have been good to discuss at greater length the reasons for the discrepancies and inconsistencies in the literature. Simply mentioning that there have been (or speculating about) inconsistencies in the literature is not enough. Please add a methodological section dealing with reconciling the differences between published studies.

• In response to this comment, we have now performed a greater number of sub-group analyses, in attempt to understand the heterogeneity. Their results, in terms of reconciling differences between studies, are discussed on pages 9 and 10.