Reviewer’s report

Title: Gestational tissue transcriptomics in term and preterm human pregnancies: A systematic review and meta-analysis

Version: 2
Date: 8 March 2015
Reviewer: Donna Slater

Reviewer’s report:

Reviewers Report
Overall summary
The manuscript presents data based on a systematic review and meta-analysis to evaluate transcriptomic analyses for assessing preterm birth. The authors performed a targeted PubMed MeSH search followed by a systematic review of relevant articles. Preterm birth is a major problem and analyses of research in this area important. The current manuscript would be strengthened by some additional clarity and discussion.

Major Compulsory Revisions
1. Please alter the language to be in keeping with the field of preterm birth and preterm labour. As currently written, parts of the introduction section are not clear. In general contrast to the field, the authors have described spontaneous preterm birth as iPTB for idiopathic preterm birth. The ‘i’ may possibly be interpreted as iatrogenic (medically indicated).

In keeping with the terminology of the field I would suggest using, ‘spontaneous preterm birth (sPTB) either with or without preterm premature rupture of membranes (PPROM)’

2. To enhance clarity about the different types and incidence of preterm birth within the introduction, please include the following articles; Ananth and Vintzileos, 2006, Henderson et al, 2012, Moutquin JM 2003 and Myatt et al 2012 (see below for references).

3. Please include the recently published article, Manucke TA et al 2015 (see below for reference) and discuss, compare or contrast the relevance to the findings of the current paper.

4. Please include the following articles; Conde-Agudelo et al 2011, Kacerovsky et al 2014 and Menon et al 2011 (see below for reference) and discuss, compare or contrast the relevance of these additional meta analyses and systematic reviews for preterm birth to the findings of the current paper.

Minor Essential Revisions
5. The introduction section is long and there are many cases when the points could be more concise, for example, line 67-69 is identical to line 22-24 in the
abstract. Please revisit and revise both abstract and introduction for clarity and flow.

6. Please revisit all sections for grammar, clarity and flow. A number of sentences are cumbersome and difficult to discern.
Please see below for some suggested examples:
Line 27 – Methods: remove the word “all”

Line 30 – Please amend sentence for clarity. Suggestion - “Our search yielded 2,362 studies on gestational tissues that included: placenta, decidua, myometrium, maternal blood, cervix, fetal membranes (chorion and amnion), umbilical cord, fetal blood and basal plate”

Line 33-34 – change “genetic elements identified 96, 21, and 21 gene expression, microRNA and methylation studies, respectively” to “genetic elements identified 96 gene expression, 21 microRNA and 21 methylation studies”

Line 34

7. I may have missed the rationale, but, I found it difficult to identify all the references, which were included in one set of analyses versus another, and compared to those that were cited within the reference list at the end of the article.
In Line 144 – 146. The authors state the ‘138 genome-wide transcriptomic studies in human gestational tissue samples were, based on a number if selection criteria, deemed eligible for systematic review (Additional File 1) [12-129]’ The additional file contains 138 examples, but many of these are repeats.
Could the authors please clarify whether the stated 138 genome-wide transcriptomic studies equate to 138 distinct references? Or multiple studies as defined by the authors within a reference? For example, Sood et al 2006 is listed in the additional file multiple times (a through to g), is this reference indicative of 7/138 genome-wide transcriptomic studies or 7 articles?
I am not sure what to suggest, but would appreciate a clearer explanation to address this query.

8. Line 243 add ‘of PTB’ at the end of the subheading

9. Please revisit the discussion (major compulsory revisions #1 and #2 above) and expand critical comparison of the current paper and other recent reviews / papers. How will the information from the current manuscript help change how the field moves forward?

10. Please add specific exclusion criteria to the methods. For example in the additional information 12, what is meant by the term ‘too early’?

11. Additional references to include.
Ananth CV, Vintzileos AM.
Epidemiology of preterm birth and its clinical subtypes.

Conde-Agudelo A et al.
Novel biomarkers for the prediction of the spontaneous preterm birth phenotype: a systematic review and meta-analysis.
BJOG. 2011 Aug;118(9):1042-54.

Henderson JJ et al.

Proteomic biomarkers for spontaneous preterm birth: a systematic review of the literature.

Manuck TA, et al.

Menon R et al.
Biomarkers of spontaneous preterm birth: an overview of the literature in the last four decades.

Moutquin JM.
Classification and heterogeneity of preterm birth.
BJOG. 2003 Apr;110 Suppl 20:30-3.

Myatt L et al
A standardized template for clinical studies in preterm birth.

Discretionary Revisions
I have no discretionary revisions to suggest at this time

**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: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'