Reviewer's report

**Title:** Low level maternal smoking and infant birthweight reduction: genetic contributions of GSTT1 and GSTM1 polymorphisms

**Version:** 1  **Date:** 25 August 2012

**Reviewer:** Ian Wright

**Reviewer's report:**

REPORT On "Low level maternal smoking and infant birthweight reduction: genetic contributions of GSTT1 and GSTM1 polymorphisms"

Asta Danileviciute, Regina Grazuleviciene, Algimantas Paulauskas, Ruta Nadisauskiene and Mark J Nieuwenhuijsene BMC Pregnancy and Childbirth Research article

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Confidential comments to editors
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None

Reviewer's report
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- Major Compulsory Revisions

The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

No details of when in pregnancy the interview was undertaken. This is important to help understand the validity of the smoking details. Cotinine or COHb would be an important validation.

Very unclear as to smoking status.....as written is dichotomous non smoker and any smoking but later this latter group is referred to as " continuous smokers" this is inconsistent.

This is a very unusual population with very high proportion of tertiary educated mothers amongst other things. Amongst the smokers the smoking use is very low. This is not adequately discussed....the birthweight difference is close to that reported for much heavier smokers. Any dose effect is not discussed enough.

The postulation of difference in cessation rate being due to metabolite changes is not adequately supported by references or evidence. As this could account for all observed effects this is really important.
- Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Multiple redundancy in the English syntax.
2. "Statistical significance was defined as P = 0.05" "less than" I think
3. Repetition of classification of smoking and nonsmoking
4. Several references are made to this showing a significant effect on adverse pregnancy outcome. This is not really true.....a small decrease in birthweight as a continuous variable but within the normal range is not actually an adverse pregnancy outcome. No evidence for IUGR, increased SGA, decreased placental wt, cord gases or any other categorical adverse outcome is reported so this terminology is not justified.

- Discretionary Revisions

None

What next?

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Based on your assessment of the validity of the manuscript, what do you advise should be the outcome

- Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest

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- An article whose findings are important to those with closely related research interests

Quality of written English

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- Needs some language corrections before being published

Statistical review

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Is it essential that this manuscript be seen by an expert statistician?
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- Yes, and I have assessed the statistics in my report.

Declaration of competing interests

'I declare that I have no competing interests'

**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:** Yes, and I have assessed the statistics in my report.