Reviewer's report

Title: Maternal blood manganese level and birth weight: a MOCEH birth cohort study

Version: 4 Date: 17 March 2014

Reviewer: maryse F bouchard

Reviewer's report:

I am satisfied with the revisions performed, but there a few problems in this last version, mostly in the discussion.

RESULTS

In Table 3, what is the justification for these Mn blood concentration categories? The lowest and highest blood Mn categories are very small: 11 and 17 women, respectively. Since there are 331 women, these groups represent 3% and 5% of women, respectively. Because the groups are so small, the AOR are extremely imprecise. It would make more sense to create groups based on the distribution of the data, such as quintiles.

DISCUSSION

The reference 22 (Legleiter et al. Influence of dietary manganese on performance, lipid metabolism, and carcass composition of growing and finishing steers) is the strangest choice of reference I have ever since. It is completely inappropriate to support the statement that “the biological activity of serum and whole blood Mn is different”. Also, I am sure what “the biological activity of serum and whole blood Mn is different” actually means. Please rewrite.

The reference 23 from 1987 is not appropriate to support a statement saying that there is currently few data on Mn in relation to birth outcomes.

Please rewrite the 2 last sentence of the discussion “We 24 obtained consistent results even though our study was conducted on a female population 13 without any specific environmental or occupational source of 1 exposure. We also found a 2 coherent dose-response relationship between maternal Mn level and birth weight.”

Consistent with what?

What is a coherent dose-response relationship?

CONCLUSIONS

“These results may help to determine the reference 7 level for Mn intake in pregnancy.”

I do not agree with this because you have no way to infer anything about the level of intake that would be produce blood Mn levels associated with lower birth weight (blood Mn too low or too high).
Level of interest: An article of importance in its field

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 do not have any competing interest.