Reviewer's report

Title: Fetal loss and maternal serum levels of 2,2',4,4',5,5'-hexachlorbiphenyl (CB-153) and 1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene (p,p'-DDE) exposure in Greenlandic and European populations

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Reviewer: Ann Aschengrau

Reviewer's report:

This manuscript describes research of great interest to EH readers. However, retrospective studies of fetal loss, such as the present one, have important limitations resulting from possibly erroneous outcome reporting. The authors can improve the manuscript by addressing this major limitation as well and the minor ones described below.

Compulsory Major Revisions
1. The high miscarriage and zero induced abortion rates in Poland are not credible. It appears that some women erroneously reported a fetal loss when they, in fact, had an induced abortion. The authors should consider validating the self-reported losses using reports in other sources such as medical records, and conducting a quantitative sensitivity analysis to assess the impact of erroneous reports of fetal loss. At the very least, they should present combined results for Greenland and Kharkiv alone in Tables 2, 3 and 4.

Minor Essential Revisions

Background
1. Give some numerical results for the prior studies that are described.

Methods
1. State when during pregnancy the subjects were recruited. It is possible to include the current pregnancy outcomes in this analysis study?
2. Give more information on the selection and enrollment process. Give your assessment whether selection bias was possible and likely?
3. Consider conducting analyses that divide the losses by trimester.
4. Describe exactly when the blood samples were drawn.
5. State whether confounder data were collected for each pregnancy. For example, it is unclear which age was used in the analysis.
6. Give the reason why the variables urogenital inflammation, urogenital diseases and chronic disease were grouped? I think that it would be better to control for each component individually, if there are sufficient numbers of subjects with these conditions.
7. Give the categories for all confounders that were controlled.
8. Justify why the five exposure categories were selected.
9. It would be useful to the reader if the authors conducted dose-response trend tests and reported their associated p values.
10. Provide the rationale for conducting analyses among women with only one previous pregnancy.

Discussion

1. The authors place too much emphasis on statistical significance when interpreting the results. They should instead place greater emphasis on the epidemiological measure of effect (e.g. odds ratios).

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 declare that I have no competing interests.