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

Version: 1 Date: 13 October 2009

Reviewer: Eva Cecilie Bonefeld-Jorgensen

Reviewer's report:

General comment
This manuscript studied the relationship between the exposure of CB-153 and DDE and fetal loss. The study design and methodology is acceptable. But there are still some problems needed to be explained and corrected and the text is in some sections unclear. The manuscript may be published after corrections and modifications.

Minor essential revisions
Background:
Page 3, line 7: give the full name of DDT
Page 3, line 16: give the full name of DDE
Page 3, line 19: give the full name of BHC
Methods:
Page 5, line 6: “(420 Inuits…”: that do not match with the number in table 2 where the number of previous pregnancies is given as 429.
Page 6, line 8 “…with analysis of results found to be within the tolerance limits”: please give the corresponding reference.
Results:
Page 8, section 2, line 9. “---odds ratios were approximately ---“
Discussion:
Page 10, line 1: In the sentence “Although not statistically---- indicating should be replaced with suggesting.
Page 10, line 9: substitute words with these given in bold “CB-153 correlated very well (r=0.9) with previous reported total PCB----“

Major compulsory revisions
Methods:
Page 5, line 1-2: low participate rate of Kharkiv may give bias problems and this should be stated and discussed.
Page 7, line 3-7: State the reasons why these factors are choosen as potential
confounders.

Page 7, 12-13 “Data are presented both as crude and adjusted for above mentioned potential confounders”: however, in Table 2 and Table 3, only the adjusted data were given.

Page 7, line 14-17: The two sentences “In addition the average POP exposure…and. The group with no ---by least squares means tests” are not clear and should be rewritten.

Page 7, Statistics section: the method used for comparison of POPs, fetal loss among countries should also be given.

Page 7, line 18-19 “For both the logistic regression model and the general linear regression model we made a final model combining the data from the three populations adjusted for populations”: did authors analyze the homogeneity of association between POPs and fetal loss across the three populations to check whether the data of three populations can be combined?

Results

Page 8, line 3-5: “The exposure level varies ….... whereas about 10 fold higher mean exposure level was found in Greenland”: did these difference statistically significant?

Page 8, line 9. Text concerning Table 1 must be introduced into the Result section concerning the higher level of urogenital and chronic diseases for Warsaw.

Page 8, section 2: In table 2 “per 1 log unit” for Warsaw finds significant OR given in bold – but that is not described in the text and should be included. Moreover per 1 log unit must be defined in the text as well as in the Table legends

Discussion:

Page 9, line 11- 14: the sentences “The data did not show significant dose response…. analysis based on the single countries” is not consistent with page 8, 2nd paragraph and table 2,3 and should be explained more in detail.

Page 10, line 10-11: please give the reference for the sentence “... and with the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) equivalent (TEQ) in plasma from PCB (r = 0.9)”

Page 11, line 7-9: the sentence “since our main ….for lactational loss of POPs” is not clear and need to be rewritten.

Comments to Tables:

In general bold numbers and per 1 log must be defined in the table legend

The reference level used to calculate the OR should be explained in the legend

Table 2:

1) The “0” and “-“ must be defined. Does it mean different things??

2) For Warsaw, odds ratios of different categories of CB-153 are “-“ , please explain
3) Explain in the table legend how the significant OR for Warsaw at per 1 log can be obtained when no numbers are given? The significant OR for Warsaw should also be mention in the text of the Result section.

4) Explain in the table legend what bold numbers means.

Table 3:
1) The “0” and “-“ must be defined. Does it mean different things??

2) For Greenland significant OR is found for 500-1000 ng/g lipid DDE – that is neither mentioned in the result nor in the discussion sections. That must be explained in detail.

3) Explain in the table legend what bold numbers means.

Table 4.
Within the table P´,p´ - DDE should be corrected to p´,p´-DDE

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**
I declare that I have no competing interests