Reviewer’s report

Title: Xenoestrogenic activity in blood of European and Inuit populations.

Version: Date: 20 December 2005

Reviewer: Jesper Bo Bo Nielsen

Reviewer’s report:

General

1) Four different population groups were included. No indication as to why these groups were selected and why a comparison between these groups would be relevant. The authors need to define their hypotheses.

2) No inclusion or exclusion criteria for any of the population groups.

3) A distinct lack of information on several of the items included in the regression analyses from some of the groups.

4) Several references are made to work in progress/preparation. This is not acceptable when used to cite methods or when used to compare with data in the manuscript. The reader and the reviewer have no chance to evaluate the statements based on this kind of references.

5) The manuscript is too long.

---------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) p.3, last line: The authors conclude “that the variation in xenoestrogenic serum activity . . can contribute to the assessment of chemical body burdens.” This is a far too general conclusion. The authors need to specify what type of chemicals and/or what kind of outcome they refer to.

2) P.4, line 20-21: How high are the Canadian guidelines, how are they specified, which organisation has described the level of action, and what action is described?

3) P.7 study populations: a) why were these rather different population groups included and compared? The authors should argue why - Inuits from Greenland because reports describe relevant exposure to POP; Swedish fishermen because . . . etc. b) There must be a reason to include them – a hypothesis – and not just that the groups were available. c) What were the inclusion/exclusion criteria and were they identical for all four groups? d) What is the difference between the four groups in this manuscript and the four groups in the total Inuendo study population? If the data in this manuscript is a subcohort of a larger group, we need to know how they were selected. e) What characterises the POP exposure in the four groups?

4) P.7, line 20: There need to be a methodological reference after ‘elsewhere’

5) P.8, line 1: It is not sufficient to cite a manuscript in preparation. Include the information or wait for the Hjelmborg paper to be published.

6) P.8, line 2-3: The authors need to include more information for the reader. Was separation based on molecular size? lipophilicity? or solubility?

7) P.8, line 7: ‘was defined’ - what substantiates this ‘definition’?

8) P.8, line 8: Were serum samples evaporated to total dryness?

9) P.8, line 12: ‘frequently’? on a weekly, monthly basis? Please specify.

10) P.11, statistics: Given the substantial number of comparisons, the authors should consider changing their level for rejection of the Ho hypothesis from 0.05 to 0.01, which would reduce the risk of spurious findings due to type two errors.
11) P.11, line 20-25: this paragraph does not belong in this section.
12) P.12, line 9: “alcohol consumption for 117 persons” This needs to be clarified as the information in Table 1 indicates that information on alcohol consumption is present for all groups except the Swedish fishermen.
13) P.12, line 14: N=348 - Why not the 363 stated in Table 1? The reader needs to know the number of persons for which you had full information and which kind of information that lacked in the remaining persons.
14) P.13, line 4: “358 adult males in this study (Table 1)” – or was it 363 person as actually stated in Table 1 or was it the 348 persons included in Table 2?
15) P.13, line 19: “Sweden>Sisimiut” – They both have medians of 3.0! Are they significantly different?
16) P.14, line 11: Is this ranking substantiated by a statistical test?
17) P.14, lines 13-16: move from result section to discussion
18) P.15, line 9: Probably not that surprising as N=48 for Sisimiut and N=22 for Tasiilaq.
19) P.17, lines 23+26; p.19, line 14: do not quote work in preparation. The reader and the referee have no chance of getting close to that data.
20) P.17, the discussion is too long and should be focussed on actual and relevant findings
21) P.36, line 12: “given as stiplet lines” Do the authors mean dotted or broken lines?
22) P.37, Table 1: The Swedish group is smoking less than the inuits, is older and lack information on alcohol, coffee consumption, and strangely enough intake of seafood (despite being selected as fishermen!). Is this really a good group to include for comparison?
23) P.40, Table 3: For p,p'-DDE, the XER correlation is negative in the two inuit groups but positive in Poland. How come?
24) Tables and figures: The authors should consider whether all tables and figures are essential given that in several places are the same data they present in two different ways.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

Quality of written English: Acceptable

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