Reviewer's report

Title: Is organochlorine exposure a risk factor for osteoporosis in Inuit women ?

Version: 1 **Date:** 2 November 2006

Reviewer: Pál Weihe

Reviewer's report:

General
1.
The question of this paper is not new. However, the highly exposed population in Greenland is a suitable one for further investigation of this problem.The problem is well defined.

2.
The epidemiological method is appropriate as a first and easily conducted approach to answer the question. The cross-sectional design has limited ability to create a reliable exposure estimate of the substances under investigation. The prospective design mentioned in the conclusion would be much better with respect to exposure description, but of course extremely time consuming.

3.
The manuscript is according to relevant standards for an article in a scientific journal.

4.
The discussion and the conclusions are well-balanced and supported by the data.

5.
The abstract is a good and covers the background and the findings.

6. Is the writing acceptable?
The writing is readable and precise.

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

The section on “Population” in the manuscript is not entirely clear:

According to Statistics Greenland (http://www.statgreen.gl) in year 2000 the population of Nuuk was 13.838 (a growing population since the population in 2006 was 14.931). According to the same source in 2000 a total of 1371 were women age 45+. Of these 1077 were born in Greenland and 294 outside Greenland. According to the manuscript there were 1026 women aged 45 and older. This is approx. the same as the above mentioned 1077 in Nuuk and villages in the neighborhood, born in Greenland. However, the authors in the subsequent sentence changed the sample criteria to women born in Greenland between 1936 and 1955, i.e. from age 45 to 64 – and in the abstract the age is stated as 49-64! According to the web page of Statistics Greenland there were 852 women age 45-64 (1139 if including women born outside Greenland) in year 2000. Hence I would recommend the selection criteria to be clarified and the number 1026 checked, since the source reportedly is the same as mine, i.e. “Greenland statistic”.

Of the 200 women, 7 had died, 11 had moved to another town and 15 were out of town at the time of the study. Furthermore 8 declined the invitation to participate, 6 were excluded because of illness or abnormal blood sampling. I suppose it should be possible to have an updated list of women living in Nuuk and surrounding in 2000 from the national register – the deceased and relocate indicate an older version of the national register had been used. The 15 women "out of town" should be included if possible. The reason to be out of town could be medical, e.g. admission to hospital treatment abroad. Finally, how many of the six who were excluded were ill and of what illness?

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

• p. 3: polychlorinated biphenyls have other sources than agriculture, which is mentioned in the text.
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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 importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.