Reviewer’s report

**Title:** Season of Birth vary in Inuit Suicide Victims born into traditional but not into modern Lifestyle. A Register Study from Greenland.

**Version:** 2  **Date:** 6 November 2014

**Reviewer:** Helinä Hakko

**Reviewer’s report:**

The authors have conducted a study in which they assessed whether season of birth differed between suicide victims born into an old or into a modern life-style. In general, the manuscript is interesting. There is also a lack of season of birth studies in suicide victims from old life-style period and this study is on addition to previous literature. The manuscript, however, needs a lot of modifications so that the readers can more comprehensively understand the findings and related them to the characteristics of the data.

Major compulsory revision

1. Already in the introduction section, the authors need to explain briefly, but more detailed manner here, how nutrition (what issues?), infections (infection???), gut flora (names?), photoperiod (seasons, etc.??) are linked with season-of-birth phenomenon and what are the main findings of the previous studies?

2. Suicide in Greenland, line 66: What means that “life span was short” (how short?) and “few reached old age” (what proportion of population?)? Lines 69-71: What organization (exact name?) is responsible for collecting the cause of death data? How accurate and reliable is the data source?

3. Season of death by suicide: Describe briefly the annual variation in climatic conditions (temperature, amount of light etc.) in Greenland.

4. The following important references missing:

   Consequently, some old references can be removed, for example, those published before the year 1990, because newer ones (abovementioned reviews) are available.
5. Season of birth in suicide victim: Add the following reference:

6. Data
   - Line 134: Who collect the cause of death data, add the name also here?
   - Lines 136-137: “Birthplace in Greenland serves as a proxy for Inuit ethnicity” is inaccurate. Explain more detailed manner how birthplace can be considered to indicate Inuit ethnicity, for example, via emigration/immigration statistics, or add appropriate reference.
   - Line 139: “Autopsies are rarely performed” – how rarely, add statistics!
   - Line 139: What means “definite suicide” here? Please, explain!
   - Add the exact ICD codes for different types of suicides.

7. Cohorts
   - Lines 146-155: It would help readers if characteristics of cohorts with “cohort names” are presented in table-format.

8. RESULTS
   - The suicide rates from non-computarized sources are very small and probably underestimate greatly the true number of suicides, which authors should discuss.
   - Why the suicide data from years 1965-1967 was not available? In order to be logical, it should be mentioned either in footnote of Table 1 or Figure 1.

9. The curves for suicide rates per 100 000 population stratified by “type” of birth cohort (traditional, transition, modern) would add the information value of Figure 1.

10. In general, the reporting style of the results presented in lines 198-227 is very messy. Reorganize the text and simplify the reporting style. Perhaps, some statistical significance test are worth of doing.

11. More discussion is needed for reliability and coverage of data sources used in this study.

Minor essential revisions:

1. The title of the table 2 must include the time period for suicide data (1968-2007).
2. Table 3 and Figure 2 include double information (suicide rate per 100 000 population). I recommend that Figure 2 is left out from the manuscript.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I declare that I have no competing interests.