Author's response to reviews

Title: Ethnic differences of cancer incidence in Estonia: two cross-sectional unlinked census based cancer incidence analyses

Authors:

Katrin Lang (katrin.lang@ut.ee)

Version: 3 Date: 18 May 2009

Author's response to reviews:

Cover letter

All the comments of all 3 reviews were addressed and changes in the manuscript were made accordingly. Changes in text are marked in red.

Reviewer's report

Title: Ethnic differences of cancer incidence in Estonia: two cross-sectional unlinked census based cancer incidence analyses

Version: 1 Date: 2 March 2009

Reviewer number: 1

Reviewer's report:

Paper ‘Ethnic differences of cancer incidence in Estonia: two cross-sectional unlinked census based cancer incidence analyses’ examines differences in cancer incidence between Estonians and Russians in Estonia. Aims are clearly stated and Paper is well designed, data sources are clearly explained and analysed with adequate statistical methods.

However, before accepting the paper for publications there are following points to consider (Minor Essential Revisions):

1) Readers should have some more background information about Russians in Estonia.

This is now added to the manuscript.
2) Author should consider adding some more discussion about cancer incidence and mortality or health among migrants, especially about migrants with similar background

(E.g. Ott JJ, Paltiel AM, Becher H. Noncommunicable disease mortality and life expectancy in immigrants to Israel from the former Soviet Union: country of origin compared with host country. Bull World Health Organ. 2009 Jan;87(1):20-9.)

This is now added to the manuscript: A study has detected a high prevalence of H. Pylori in immigrant populations in the Netherlands [11]. Studies that looked at mortality patterns of immigrants to Israel from the former Soviet Union found that the study cohort had higher SMR-s for stomach cancer relative with Israeli and German populations [17, 23].

3) Author should pay more attention to the fact that differences between Estonians and Russians in cancer incidence have been reduced from 1988-1990 to 1999-2000 in discussion and in the conclusion. It should also be mentioned in the abstract.

This is now added to the manuscript: To summarise the changes in cancer incidence between Russians and Estonians in Estonia over time, it can be seen that the ethnic differences in cancer incidence have become smaller for nearly all cancer sites (except for some sites in women).

4) Tendency in lung cancer incidence is similar to the changes in lung cancer mortality by Leinsalu et al. (2004). Might the possible explanation be similar?

Yes, thank you for an important comment. This is now added to the text, including the reference.

5) Page 9 Sentence ‘When Estonia and Russia are compared as countries, lung cancer incidence in Russia is also higher than in Estonia’ needs reference.

Reference added:
Bray,F.; Sankila,R.; Ferlay,J.; Parkin,D.M. 2002
Estimates of cancer incidence and mortality in Europe in 1995
European Journal of Cancer 38:99-166
A research article, entitled “Ethnic differences of cancer incidence in Estonia: two cross-sectional unlinked census based cancer incidence analyses” by Katrin Lang is a descriptive study where age standardized (European standard population) cancer incidence rates for two calendar period: 1988 to 1990 and 1999 to 2000 were estimated and compared in respect to ethnicity and gender. The aim of the study was to examine ethnic differences in cancer incidence in Estonia, and to compare the situation before and after the profound political and economical changes in early 1990s.
A well described and crude statistical approaches were used: SIR, SRR.

Major compulsory revisions
1. The cancer incidences for two periods, 1988-1990 and 1999-2000 are compared. Given a population size in Estonia (approx 1,45 mill) it is expected that more seldom cancer forms are prone to random fluctuation. More precisely,
for the period of 1999-2000 SIRs are based on 2yrs incidences only. Dr. Lang claims “at the time of the study the ECR did not have completed registration data for 2001 and for that reason it had to be excluded from the study.”

In order to provide more stable estimate for latter period to avoid random fluctuation, I would ask the author to recalculate this period for 3 years for more stable estimates, as now, 2009 the registration is probably complete.

Thank you for the useful comment. This kind of recalculation is though not possible for the following reason: the Personal Data Protection Act adopted in Estonia in 2003 prevents linkage of the Estonian Cancer Registry files with the death certificate database (Rahu M, McKee M. Epidemiological research labeled as a violation of privacy: the case of Estonia. Int J Epi 2008; 678-682). This inevitably affects reported incidence after 2000.

Text in the manuscript has been changed accordingly, reference provided.

2. In the abstract it appears that the result and conclusions does not support each other. It should be rewritten.

It is rewritten. Pls see the abstract for changes marked in red.

Minor Essential Revisions

1. Tables should be revisited:

1.1. There was a discrepancies between text/table heading referring to estimates for the period of 1999-200 and 1988-1990, whereas in column heading there is only one year 1989 and 2000 for table 4 and 5: it is not clear does the absolute number of incident cancer cases in table 4 and 5 referrers to all cases in 3 and 2 year period (as indicated in title of the table and text in result part) or to one year period only (as indicated in the table Column heading)?

Thank you. This has been changed now.

1.2. Because the SIR are double presented in tables, I would ask author to revisit the tables: f.ex: one could incorporate the absolute numbers of new cases to the table 2 and 3 and omit all repetitive SIR from tables 4&5, which can be also
combined into one table.

Changes have been made. The number of tables has been reduced as suggested by one of the reviewers.

Data presented in the current manuscript is from the population-based cancer Registry of Estonia. The limitation of the data are well describe in table 1 and result part. However, a short description assuring that routine for definition of the incident cancer case in Cancer registry of Estonia was not changed during this transitional period would be appropriate.

This is now added to the manuscript in the Discussion.

Also in pg 3: ICD 4 digit code was used:
please add the version of ICD used in the Cancer Registry.

This is now corrected in the text.

I would also ask author to elaborate the reasoning why one would expect the dramatic differences in cancer incidences among Russian and Estonian.

This has now been elaborated in the text (in the Discussion part), some references added referring to other studies (such as studies of immigrants) Otherwise the discussion was informative and supported by results and the manuscript adheres to the relevant standards for reporting and data deposition.

Discretionary revisions Non.

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

The manuscript has been read by English language editor.

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

Reviewer's report
Title: Ethnic differences of cancer incidence in Estonia: two cross-sectional unlinked census based cancer incidence analyses

Version: 1 Date: 31 March 2009
Reviewer number: 3
Reviewer's report:
Minor essential revisions

1. In results part of the Abstract, the author need to describe the results in more detail, by giving more attention to the ethnic differences as observed in the most recent period.

This is changed in the abstract. Pls see the changes in abstract marked in red.

2. In the conclusions, both in the Abstract and at the end of the paper, the author need to reconsider the emphasis that is given on the role of "lifestyle" and "migration". Please note that these several explanations forwarded in the Discussion section embrace many more factors than lifestyle and migration only.

All these parts of the manuscript were revised and rewritten to large extent, as also suggested by the other 2 reviewers. Discussion is now structured and shortened. Pls see the text for changes.

3. I would suggest to describe in some detail the results of previous Estonian studies on ethnic inequalities in mortality from cancers. This applies to the Introduction and to the Discussion (and there to compare these results with the results of the current paper). A comparisons should be made especially with the mortality study in reference 4.

This is now added to the manuscript.

4. In the description of the key independent variable, the author need to be consistent in its precise definition. I understood from the paper and previous studies that this should be self assessed ethnic identify, instead of “nationality”.

This has been corrected in the text.
5. I think that author need to discuss in more detail the potential bias related to "numerator/denominator bias". Especially worrying may be the increase over time in the number of missing cases, which might be related to ethnicity. However, the authors discard all these potential bias as "very unlikely" and "unlikely" without convincing reasons such as additional empirical information.

This is now handled in the discussion in a bit more detail. Additional empirical information in the form of published literature does not exist.

6. When interpreting the patterns observed for lung cancer, reference should be made to the possible role of smoking. It is difficult to believe that “migration” explains the ethnic differences for lung cancer, whereas this factor would not have similar effect for other cancer types.

This is now added to the manuscript. Reference is made to Bray et al 2002, Estimates of cancer incidence and mortality in Europe in 1995, Eur J Cancer 38: 99-166

7. When interpreting the patterns for pancreatic cancer, the potential role of alcohol consumption needs more elaboration. Do findings for other cancer types support a strong role of excessive alcohol consumption?

This is now elaborated in the text.

Discretionary Revisions.

8. I suggest to omit the formulas from the description of the methods. I feel that these standard formulas are redundant.

The text has been changed according to the suggestion: When comparing SRR's, the confidence intervals were based the formula presented by Breslow and Day (Breslow, 1987 886 /id).

Formulas were omitted.

b. In the Results section, I suggest to apply a clear structure according to paragraphs. The current structure, where complete paragraphs are combined with loose sentences, give a chaotic impression.

The results were reorganized into paragraphs (mainly one for men one for
women), and somewhat shortened.

c. The author may omit from the Results section the part on trends over time (with tables 2 and 3) and focus on the key results as presented in table 4 and 5. This would substantially reduce the number of tables, without loss of essential information on ethnic inequalities.

Trends over time, Tables 2 and 3 are now omitted from the draft. As pointed out rightly by the reviewer, these did not contribute essential information on ethnic inequalities.

d. The discussion could be shortened by omitting the different parts where results are only summarized, not interpreted.

This has been done in the manuscript.

Level of interest: An article of limited interest

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.