Reviewer's report

Title: Changes in period and cohort effects on haematological cancer mortality in Spain, 1952-2006

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Reviewer: Yuri Ito

Reviewer's report:

1. Is the question posed by the authors well defined?
   Yes.

2. Are the methods appropriate and well described?
   The approach in this manuscript is very challenging and the idea sounds good, but I think there are partly questionable the method they used.

   Major Compulsory Revisions
   As authors mentioned in the last sentence of the Methods section (page 7), it is doubtful whether the estimated period or cohort effect can be applied to Joinpoint regression model. The idea seems good, but the statistical adequacy needs to be well explained in the method part in more detail.

   Minor Essential Revisions
   The authors showed the results of the Joinpoint regression model of age-adjusted mortality in the first paragraph of the Results section (page 7). But they have not explained in the Methods section.

3. Are the data sound?

   Discretionary Revisions
   It is good that the authors used very long-term mortality data, but we need to think about data quality in the earlier period (1950s). In addition, although authors mentioned the accuracy of death certificate data during the period 1980-2002, the data from other period should be assured the quality of data. Or they may be able to do sensitivity analysis using data whose quality was assured.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   Major Compulsory Revisions
   For the aim of this study, probably the authors need to add some other statistics,
such as incidence, survival of haematological cancer. Even if these data were not available for the national level and all study period, they could find some supportive data from regional cancer registry data. The results were not fully interpreted and explained well, because they showed and thought about only mortality trends.

6. Are limitations of the work clearly stated?
Yes.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
Yes.

9. Is the writing acceptable?
Yes.

Level of interest: An article of limited interest

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

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