Reviewer's report

Title: Burden of disease due to cancer in Spain

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Reviewer: Michelle Elisabeth Kruijshaar

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This is a comprehensive study of the burden of cancer in Spain. As the authors state, combining morbidity and mortality into one summary statistic is becoming more and more important with improvements in curative treatments. The real strength of summary measures, nevertheless, is that they enable comparison between diseases which have unequal impacts on morbidity and mortality (e.g. psychiatric disorders and cancers). As the authors focus on one type of disease, which impact is still dominated by mortality, the use of the DALY nevertheless is unlikely to provide major new insights.

Major Comments

Several of the results presented (e.g. cancer ranks second, ranking of different types of cancers, and even partly the age distribution) merely seem to emphasize what was already known, rather than add to our knowledge. It is important in writing up this study, to emphasize what this analysis adds and to give less prominence to results that follow what was already known. I think it is possible to make this paper much more interesting for the general reader. Also some editing is required to improve the English.

I was surprised by the fact that no cancer incidence data for 2000 were available. I seem to recall that incidence data for 1996 from regional cancer registries (& hospital statistics) were available in 2001, hence expecting 2000 figures to be available by now. Could the authors explain this? One of the conclusions of the paper is that ‘it highlights the need for the coverage of Spanish tumour registries to be increased”. This issue, however, is not discussed in the main body of the discussion, nor is it emphasized in the results or elsewhere in the paper. This needs to be addressed.

Detailed comments

Abstract
- EUROCARE-3 study is mentioned here, but in the methods the Victorian burden of disease study is cited?

Introduction
- Restructuring is required. A lot of information is given on what DALYs are and why they could be useful in general. However, it is not mentioned exactly why they are so useful for this study in particular. What does this study add to the evidence base/ what information does it provide to policy makers or physicians?
- The large amount of information regarding which cancers are the leading causes of morbidity and mortality could be partially omitted to shorten the introduction.

Methods
- Why was age-weighting applied? It has been shown by Barendregt et al that the age-weighting used in the original GBD study has some flaws?
- The second paragraph (data sources) could be condensed.
- Reference 16 at the end of the second paragraph is duplicated/wrong.
- The third paragraph (disease model) could be made clearer.
- The second para of page 6 (variables used) could be combined with the very first paragraph of the methods.
- Incidence of 1997-2000 was estimated - see earlier: why was this necessary? And if the study is based on 2000 incidence data, why was incidence estimated for the period 1997-2000?
- Survival data from the US were used, would the authors expect similar figures for Spain?

Results
- Additional file 2 is referred to in the text – is this going to be a web-file?
- I am not sure all the information provided in table 1 is really required, e.g. by sex could be omitted? To which stage of the disease do the duration and weight provided this table refer? Or do they give an overall weighted average across the disease stages, in which case the footnotes need to explain how this was estimated.
- Total number of DALYs do not mean much to many readers, and it would therefore be helpful to include proportions (not only for men and women but also for YLL and YLD) as well as the DALY per 1000 population as done in the discussion.
- It would be helpful to rank the cancers in Table 2 by order of largest number of DALYs.
- ‘By type, the highest number of YLL was accounted for by lung cancer …’ It is not clear that this refers to men only - the statement ‘in the case of men’ needs to be placed earlier in the sentence.
- Figure 2 is much more informative than table 2, as is paragraph 4 compared to para 3. I would start with para 4 and omit parts of para 3 and possibly table 2.
- The section on the distribution by age is very elaborate. Please condense this.

Discussion
- Please give more focus to what this study adds to our knowledge/understanding.
- Cancer ranks no 2. Maybe the authors could state the no 1 as well?
- Consistency with other figures: please add the year to which the WHO Euro-A estimates refer to. Rounding of proportions: 15.8% is 16%.
- Paragraph 2 could be condensed. The last part of this para (in the Euro-A region …) seems to be a different issue.
- Para 3 is kept nicely concise and ends with an interesting potential future consequence. This is the kind of style and messages that could make the paper more interesting for the general reader.
- Para 4. It is not clear in all parts whether the statements are in general (for all diseases) or just about cancers. In general women live longer so are likely to have more life years with disability, not necessarily only for cancers.
- Para 5. Please omit ‘not accompanied by good QoL’. It is not necessary to add this as an improvement in survival would decrease the number of YLL, reducing the YLL:YLD ratio (or: increasing the importance of YLD), irrespective of whether YLD increase or not.
- How do the estimates of the different cancers compare to earlier estimates - if any are available. Are there any changes over time suggestive of improvements?
- A discussion on the coverage and possibly also the ‘up-to-date-ness’ of the incidence data needs to be included.
- The last part of the conclusion (‘the difference in the weight …’) would be better placed elsewhere in the discussion, as it does not give a particular take home message for the reader.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

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