Reviewer’s report

Title: Age-standardized mortality rates related to viral hepatitis in Brazil

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Reviewer: Maryam Alavi

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The study by Perazzo et al have utilised data from the Brazilian National Death Registry, to describe viral hepatitis-related mortality in Brazil, by micro and macro regions. The methodology and findings of this study are interesting and timely, given the advent of improved hepatitis C therapeutics and recent changes in hepatitis C public health strategies. However, the readability of the manuscript could be improved:

Firstly, the title needs to be revised: "age-standardised" is the more accurate definition of the methodology, rather than "age-adjusted". Also, age-standardisation is usually used to describe individual-level risk, not burden. Description of the burden of age-standardised mortality is therefore a confusing concept.

Secondly, the manuscript could be revised to better place this study within the literature and describe implementation of findings. For example, introduction provides some information about hepatitis B and C being a public health problem in Brazil. However, it could be revised to describe why it is important to understand the geographical distribution of viral hepatitis-related mortality; are the aims of this study aligned with public health strategies against viral hepatitis in Brazil? Description of background information about viral hepatitis prevalence continues well into discussion. Instead, these sections could be summarised and more information could be added about how the findings of this study reflect the impact of existing viral hepatitis strategies (e.g. there is only one line about hepatitis B drugs being delivered in the country. More information could be added about when these drugs have been introduced and how many people are estimated to be receiving hepatitis B therapy. The fact that age-standardised mortality rates have not changed can indicate antiviral therapy has not had any impact on individual-level risk of mortality). Moving forward, findings of this study could be used to guide viral hepatitis strategies. For example, data from the death registry could be used for future surveillance of mortality trends, to evaluate the impact of new hepatitis C therapy (also, more information could be added about eligibility criteria for new hepatitis C therapies). If large numbers of people are receiving hepatitis C treatment, hepatitis C-related mortality is expected to decline in the future & studies like this are perfectly situated to capture the anticipated changes.

Thirdly, presentation of results could be improved: for example, temporal trends in numbers (indicator of population-level burden) and age-adjusted mortality incidence rates (indicator of individual-level risk) could be added for each type of viral hepatitis. Also, a map of the country could be added to better visualise mortality hotspots due to each type of viral hepatitis.
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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