Author's response to reviews

Title: Trends in aortic aneurysm- and dissection-related mortality in the state of Sao Paulo, Brazil, 1985-2009: multiple-cause-of-death analysis

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Version: 5 Date: 30 July 2012

Author's response to reviews: see over
Sao Paulo, July, 30

To BMC Public Health


We would like to express our appreciation and gratitude for the comments and suggestions of the reviewers and the BMC Public Health Editorial Team. All comments of the reviewers were taken into account and properly included in the text of the manuscript (inclusions and modifications are marked in yellow). Please find below a point-by-point response to the reviewers comments to the third version of the manuscript.

Version: 3 Date: 7 May 2012
Reviewer: Stefan Acosta
Reviewer's report: Revision is ok

We are deeply grateful to Prof. Stefan Acosta for his comments to the first version of our manuscript, and whose suggestions that were included in the text contributed to clarify the circumstances of the mortality related to aortic aneurysm in the State of São Paulo.

Version: 3 Date: 10 May 2012
Reviewer: Janet Powell
Reviewer's report: You do not seem to have understood correctly the reviewers comments and therefore, for the large part, the reviewers concerns have not been addressed in this revision.
Quality of written English: Needs some language corrections before being published

We carefully studied our responses to the reviewer’s comments to the first version of our manuscript and we were not able to identify the problems mentioned above. As the current comment does not specify the reviewer’s concerns that have not been addressed, data venia, we show again those comments and responses.

1. The authors have not attempted to evaluate, even with a small sample audit, how many of the secondary mentions of either aneurysm or dissection as causes of death relate to operative mortality (ie they have occurred within 30 days of an operation to repair). Frequently doctors will attribute deaths following operation to myocardial infarction, heart failure, multiorgan failure etc, when in reality the cause of death was the operation itself and therefore either aneurysm or dissection. This is a weakness of the current manuscript.

We are supposing that the secondary mentions noticed in the reviewer's report refer to aortic aneurysm and dissection as associated (non-underlying cause-of-death). Of course, besides aortic aneurysm and dissection, it would have been possible to study all other associated causes mentioned in those 6,527 deaths whose underlying causes are shown on Table 4. A similar list, as the one used to
study the associated causes of aortic aneurysm and dissection as an underlying cause, as done on Table 3, might be used and we would receive an equivalent distribution of causes, including "surgical operations and other surgical procedures" and "complications of surgical and medical care". Nevertheless, such associated causes of death would be linked to all the underlying causes displayed on Table 4, i.e., Chagas disease, malignant neoplasms, diabetes mellitus, and hypertensive disease and so on, until external causes of death. We must also remember that the codes used to identify causes of death are from the International Classification of Diseases, where surgical and medical procedures are recognized by means of general and unspecific characteristics that do not identify the condition that was treated. The International Classification of Health Interventions (ICHI) that succeeded the International Classification of Procedures in Medicine (ICPM) is not used for coding causes of death. Therefore, we would not be able to identify the surgical operation, if due to treat an aneurysm and dissection or else Chagas' disease, neoplasm or a fracture from an accidental fall, and so on. Additionally, regarding interval of time elapsed from an eventual operation and death, it is known that only one per cent of death certificates include such a period of time between causes listed on the lines of Part I and Part II of the International Form of Medical Certificate of Cause of Death. In conclusion, the operative mortality related to aortic aneurysm and dissection, while an important feature, needs to be addressed, but unfortunately not by means of death certificates exclusively.

2. The authors must explain the dramatic changes in Figure 3 for the years 1995-6. Has there been a coding error or coding error?

In our opinion, the changes that are shown in Figure 3 are related to the introduction of the fourth line in Part I of the International Form of Medical Certificate of Cause of Death. This text had been already included in the manuscript.

3. The data in Figure 5 must be set against total deaths. What we need to know is whether the % of deaths attributable to aneurysm increases during the autumn and winter months, because it is likely that all death increase in the winter months.

We have followed the analysis method that has been done for the seasonality of aortic aneurysm and dissection in the papers found in the literature on the matter. A list of these papers may be obtained with the authors.

4. The data in Figure 6 need to be age-standardised to enable interpretation.

The rates in figure 6, about aortic aneurysm and dissection according to Regional Health Directions in the state of São Paulo, have been standardized.

5. The discussion is far too long and rambling, it needs to be cut by at least 50%. The observations must be discussed against recent reports from New Zealand, England and Scotland which show that the mortality from aortic aneurysm has been decreasing over the past 10 or more years.
Taking into account the comment about the discussion being rambling, we have carefully analyzed its structure. We could ascertain that the paragraphs of the discussion orderly and logically follow the data shown in results.

(The response about the size of the discussion was mentioned at the beginning of the letter as follows: “We have not addressed contradictory comments, such as to extend the discussion (reviewer 1 and 3) or to cut it by at least 50% (reviewer 2).”).

(The response to the item related to decreasing mortality from aortic aneurysm was included in the responses to the comments of reviewer Edward Choke, as follows: “The authors would like to thank the reviewer for this comment and also congratulate for his recent published paper on the mortality from abdominal aortic aneurysm. We can very well understand his concern about the current state of abdominal aortic aneurysm mortality trends. Therefore, we also would like the expose some arguments to justify the objectives of our manuscript. This is the first study in Brazil (and to our knowledge in Latin America), mainly with an epidemiological perspective (instead of clinical) to describe mortality trends of all the range of conditions included as aortic aneurysm and dissection with the use of multiple-cause-of-death methodology. Such data were not known among us, contrasting to England & Wales, where the studies of Fowkes, Macintyre and Ruckey and of Filipovic, Goldacre, Roberts, Yeates, Duncan and Mozaffari have before shed light on the epidemiology of aortic aneurysm and dissection. The authors have not missed the importance of abdominal aortic aneurysm; but aimed mainly to see the forest in spite of the trees. On the other hand, the reviewer's comments were also taken into account during the analysis of the data with a Poisson regression program, revealing changes in the mortality trends of aortic aneurysm and dissection.”).

Version: 3 Date: 21 May 2012
Reviewer: Edward Choke
Reviewer's report:
Major Compulsory Revisions
This is an excellent manuscript that deals with an important health issue. However the authors have still not revised the manuscript to address a point made by two reviewers. This relates to the fact that recent evidence in other countries have suggested a decreasing incidence and mortality of AAA (New Zealand, Australia and England and Wales). This manuscript in its current form only discusses historical epidemiological data from other countries and as such may be misleading for readers.

The comment of Prof. Edward Choke gave us the opportunity to a closer look of the pertinent literature on aortic aneurysm and dissection mortality. Apart conventional scientific papers, we have found a study using the multiple cause-of-death method regarding the mortality related to aortic aneurysm and dissection in England, and an informative fact sheet of the Centers for Disease Control and Prevention about mortality trends of aortic aneurysms in the United States, whose corresponding results showing decreasing mortality trends were included in the manuscript. Regarding the decrease of mortality rates from abdominal aortic aneurysm, the recent published papers from Australia, New Zealand, England & Wales and Scotland, England & Wales, as well as a newly published abstract describing the decrease of abdominal aortic aneurysm in the United States were also included in the text of the manuscript.
Respectfully,
Augusto Hasiak Santo