Reviewer's report

Title: Utilization of evidence-based treatment in elderly patients with chronic heart failure: Using Korean Health Insurance Claims Database

Version: 2 Date: 21 March 2012

Reviewer: Altacilio Nunes

Reviewer's report:

1. Is the question posed by the authors well defined?
The issues are clearly defined and well founded.

2. Are the methods appropriate and well described?
The methods are described with little detail. The authors consider the study as retrospective however; apparently this is a cross-sectional study employing back data. In this way, all analysis should take into account this aspect, as for example, in the choice of measure of association, where the authors employed the Odds Ratio with its respective 95% Confidence Interval as estimator, when in cross-sectional studies, the appropriate effect measure is the Prevalence Ratio (PR) with your 95%CI. The Odds Ratio tends to overestimate associations when compared to the PR, therefore, some of the variables could not show associated with the outcome being studied.

3. Are the data sound?
Despite having found significant associations (such as protective factors or risk factors) between virtually all variables when multivariate analysis was carried out, such findings cannot be considered reliable, considering that was analyzed a sample of large size, and may be introducing a error due to sampling effects, facts that may be suggested when observing the low magnitude of associations and the small size of the 95%CI. Therefore the results should be interpreted with great caution and with very critical sense.

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?
No, clearly the discussion was held only on variables that were "able" to predict the treatment prescription not based on evidence, in this way, the authors have lost the great opportunity of delving into the discussion of findings related to variables that behaved as protective factors, so the conclusions also were damaged.

6. Are limitations of the work clearly stated?
The authors cite three major limitations of the research, however, did not comment on other important limitations, such as the use of a specific database linked to health insurance, which certainly also has a specific population can be lead to a selection bias. Similarly, database information do not provide guarantee of prior information of patients.

Another limitation, the database is relatively old (2005-2006), it is possible that after 5 to 6 years the situation is different, and the results cannot be extrapolated, impacting negatively on the external and internal validities of the study.

Another limitation of the sample corresponds to a large database (28,992 elderly), and statistically it is known that this can lead to the meeting of associations which on many occasions can be due exclusively to the sampling effect.

There are other minor limitations.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
They are listed as individual contributions of each author.

8. Do the title and abstract accurately convey what has been found?
In this topic, the methodology is described in some (few) detail and the results describe only associations of risk. There is no mention on other associations found (protective, for example).
The keywords do not meet formal descriptors (must be rewritten according to the MeSH)

9. Is the writing acceptable?
Yes, the text is well written employing appropriate scientific and language style.

- Major Compulsory Revisions
The statistical analysis should be rewritten with more details of techniques employed, leaving clear what factors or tuning variables were used?
In the results should be described and properly interpret any Association found (risk and protective factors) according to multivariate analysis.

- Minor Essential Revisions
To use “MeSH” for choose of key-words.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests' above.