Reviewer's report

Title: Prevalence of multimorbidity in the elderly population: results of a study based on electronic medical records

Version: 3  Date: 16 March 2014

Reviewer: Cara Tannenbaum

Reviewer's report:

Major Compulsory Revisions

1. Methods and Results section: The major weakness of the study is the validity of the conditions included in the different multimorbidity categories. Please justify inclusion of the diseases in each pattern. I would have expected conditions such as depression, anxiety and insomnia and other geriatric syndromes such as incontinence and falls to be included in the psycho-geriatric pattern. Congestive heart failure and cardiac arrhythmia appear in both the CM and PG pattern. This introduces collinearity and explains the significant association between the CM and PG patterns in the same patients (the same conditions are counted twice), thus invalidating the results. In the same vein, obesity appears in the CM pattern, but not the Obesity pattern. Although the authors argue in the Discussion section that dyslipidemia does not predict cardiovascular outcomes, dyslipidemia is still widely accepted to be part of the cardiometabolic syndrome. It has a strong association with hypertension and diabetes in cardiac and obese patients. Data from the previous study should be presented to validate these choices – from a medical perspective the groupings are unclear.

Many patterns of multi morbidity have been described in previous papers that the authors reference. Concordance between grouping among different groups of researchers must be provided to lend validity to the findings.

Minor Essential Revisions

1. Abstract: Results section, second sentence. Remove the word “with” from the sentence “women presented (with) more than one pattern…”

2. Background and Methods sections: Single sentences do not comprise full paragraphs. Please edit to make sure that there are at least 3 sentences per paragraph.

3. Background: Some references are out of date. Consider updating some references to include the recent American Geriatrics Society guideline papers on multimorbidity or other recent high impact journal editorials and original research papers.

4. Background: Last sentence. Would consider rephrasing the objective of the study to read, “The aim of this study was to describe gender differences in the
prevalence and patterns of multimorbidity in elderly men and women”.


6. Methods. The number of prescription medications was mentioned in the inclusion criteria. Were prescriptions accounted for at all in the analyses?

Discretionary Revisions

1. Would consider changing the title of the paper to reflect the novelty of the findings: “GENDER DIFFERENCES in the prevalence AND PATTERNS of multimorbidity in the elderly population: results of a study based on electronic medical records.” Unless the journal requires specification of the methods in the title, I would also remove “results of a study based on electronic medical records”.

Level of interest: An article of importance in its field

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

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

Declaration of competing interests:

I declare that I have no competing interests.