Reviewer’s report

Title: Physical and mental health comorbidity is common in people with multiple sclerosis: nationally representative cross-sectional population database analysis

Version: 1 Date: 14 April 2014

Reviewer: Alessandra Solari

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The manuscript reports findings of a cross-sectional study on multi-morbidity in people with multiple sclerosis (MS) living in Scotland. The topic is of relevance, and the community-based nature of the study (database of 1,272,685 people aged > 24 years registered with 314 medical practices in Scotland) a strength. However, the manuscript has a number of limitations.

MAJOR

1. The operational definition of co-morbidity, as a the simultaneous presence of MS and other 39 “conditions” including diseases (e.g. Parkinson’s disease, IBS, COPD see Figure 3), symptoms (e.g. constipation, pain, dyspepsia), organ disorders (e.g. prostate diseases, thyroid diseases, chronic liver diseases), and others. This operational definition is unsuitable (at least as a unique criterion) in MS, as many of the “conditions” cited (e.g. constipation, visual symptoms, pain) are also symptoms of the disease. Solid inference from the data presented (included the low MS cardiovascular co-morbidity) is puzzling. I strongly suggest that concurrent diseases are used instead (referring to international classifications), if possible assessing both number and severity of the concurrent diseases (e.g. the Charlson Comorbidity Index [Charlson et al., 1987], or the Index of Co-Existent Diseases [Greenfield et al., 1993]).

2. Providing only basic MS demography (sex, age and deprivation index) without a core set of information (e.g. MS duration, course and severity) is another study weakness.

MINOR

1. Please specify the study time (month/year).

2. Please clarify if the ORs reported in Figures 2-3 are adjusted for age, sex and deprivation (add this information to the legends.

3. Life expectancy of people with MS is about 10 years lower than controls (Compston 2008): please comment why study’s people with MS were on average 2 years older than controls.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

We ask all peer reviewers of medical papers to declare their competing interests in relation to the paper they are reviewing. The peer reviewer declaration is included in the report bearing your name that will be sent to the authors, and published on our website if the article is accepted.

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