Title: A personalized, intense physical rehabilitation program improves walking in people with multiple sclerosis presenting with different levels of disability. A retrospective cohort.

Version: Date: 20 January 2015

Reviewer: Maria Grazia Grasso

Reviewer’s report:

The aim of this retrospective study was to evaluate the effect of a three-week physical rehabilitation program on people with MS subdivided according to their level of neurological disability. All the patients improve in all the walking scales used, but only the 2-minute walk test is above the minimal clinical difference value. Furthermore, the moderate and severe groups improved more than the mild group.

Although the results of the study are similar to others reported in the literature, there are some interesting findings. However, the following points need to be clarified.

Major compulsory revisions:

1) The authors state their MS centre provides long-term multidisciplinary care and treatment but do not specify whether the patients perform other treatments besides the physical rehabilitation. This is an important point and should be explained more clearly.

2) As mentioned by the authors themselves, other important measures, such as fatigue and spasticity evaluations, are lacking.

3) It is not clear how the authors measured, with statistical analyses, the best improvement in the moderate and severe groups with the 2-minute walk test (lines 227-228 and 244-245).

4) The mild patients obtain the best walking measure scores before treatment; I think there may have been a ceiling effect after the treatment, and this should be discussed.

5) The diagnostic MS criteria used should be updated (references n 28) and included in the Methods session.

6) To further improve the paper, it might be interesting to verify if predictive factors exist for the walking improvement.

Minor essential revision

Line 121: EDSS score from 5.0 to 9.5 does not only reveal impairment in deambulation. Please specify better.

Line 198 It is necessary to define the results of the test.
Figure 2: the results have to be shown as negative
In the results and in the tables, I suggest inserting the type of statistical analysis performed.

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

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interest