Reviewer's report

Title: Cognitive function and quality of life in multiple sclerosis patients: a cross-sectional study

Version: 3 Date: 7 December 2010

Reviewer: Christoph Heesen

Reviewer's report:

I appreciate the responses and changes of the authors. However, some of my concerns might have not been clear enough in their explanation from my side so I would shortly like to readdress them with a suggestion how they could be integrated in the paper.

When correlating health-related Qol measurements with objective disability dimensions the issue arises if beyond an overall impact specific correlates can be found in specific subscales. I think authors would agree that a quite strong correlation would be expected by comparing 25FWT with a quality of life subscale on mobility. And higher correlations to this subscale compared to the whole scale score with 25FWT would underline validity of the construct. However, this issue is much more complicated in cognition. Self-perceived deficit might not at all correlate with objective tests due to coping strategies. But on the other hand the relevance of a psychological subtest finding belwo norms for daily life is an issue to be studied. Both aspects have rarely been addresssed in MS studies. Therefore it is a pity that authors made this huge effort of doing detailed cognitive testing on one hand but without trying to measure as best as possible cognitive quality of life. This of course reflects a coping dimension which by the way is included in any quality of life rating but maybe more prominent in cognition. In fact it woudl be very helpful to have a clerarer idea which cognitive de´fiocist impacts most on patients. So is might be theat attention and executive functioning are much more relvenat than memmory the later being more prone to compesation techniques.

I therefore would suggest a sentence like the following in a limitation section:

“As a limitation we did not assess thoroughly cognitive quality of life nor impact of cognitive dysfunction on daily functioning. Further studies should try to disentangle the impact of different cognitive domains on cognitive quality of life on one hand and on cognitive daily functioning on the other hand.”

I would refrain from postulating that health-related quality of life conceptionally would not strongly correlate to cognitive status. As outlined above more work is needed.

Minor point: Only Gold 2003 investigated the validity of qol assessments in cognitively disabeled MS patients.
Assuming these changes will be performed I would be happy to see the paper published without any further reviewing.

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

**Quality of written English:** Acceptable

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