Reviewer's report

Title: From Multidimensional Neuropsychological Outcomes to a Cognitive Complication Rate: The International Subarachnoid Aneurysm Trial

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Reviewer: Gianfranco Spalletta

Reviewer's report:

In this paper, authors explored data collected from 573 patients enrolled in the neuropsychological arm of the International Subarachnoid Aneurysm Trial (N-ISAT), one of the largest randomized trials in the treatment of subarachnoid haemorrhage. The aim was to analyze and summarize data from 29 psychometric measures in order to establish a cognitive complication rate (CCR). The authors concluded that patients classified as cognitively impaired by their analyses showed significantly more self and carer/relative rated disability on a health related quality of life questionnaire than patients without cognitive impairment.

Major Compulsory Revisions:

The idea of trying to simplify a large amount of data by a Principal Component Analyses seems to be good, nevertheless authors may want to consider the following suggestions:

1) It is very verbose
2) It is not fluent and this make it impenetrable and of difficult comprehension
3) Including a new part of the article with missing data seems to be redundant
4) The description of the statistical analysis is very long and, at the end, this section is difficult to follow
5) In the conclusion section, authors compared two groups of subjects by the scores of a questionnaire never cited before and the related statistical analysis is not explained in the paper.

To be honest and unpretentiously, I did not capture the final message of this paper because it is very verbose.

In conclusion, in the opinion of this reviewer this manuscript is not evaluable in the present form because it aims are not well explored and described or perhaps are described in a complex way, the statistical analysis is too complex to follow and therefore the conclusions are difficult to understand. I suggest to resubmit a conciser revised version of this interesting article.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.