Reviewer’s report

Title: Poor condition on admission does not ascertain stroke rehabilitation outcome of geriatric patients: results of a cluster analysis

Version: 2 Date: 10 June 2012

Reviewer: Abdel Douiri

Reviewer’s report:

The subject matter of this paper is related to stroke care, particularly, post-stroke rehabilitation of geriatric patients. Thus, research that suggests or improves patient’s management would therefore be valuable.

The question posed by the authors is well defined and data/methods were in general well described. However, the English expressions of this paper needs some revision, particularly, it needs to look at the use of verbs. I suggest a revision by a native English speaker. Also, statistical analyses and interpretations could be improved further. Details of my review are as follows:

Major Compulsory Revisions:

1- In the abstract, result paragraph, could you please give number of patients in each cluster (dominator) before stating rates?

2- In background, page 3, line 6, the sentence “A quarter of all patients die after a stroke” is incomplete. Do you mean “A quarter of all patients die in the first 3 month after a stroke”? Also, it may need a reference.

3- In page 5, paragraph Patients, The second sentence begin with “Patients who declined ....” do not read well and not clear. Could you please revisit/rewrite this sentence?

4- In page 5, paragraph Measurements, first sentence, do you mean “ischemic stroke” or “stroke subtype”?

5- In page 6, line 12, the sentence “The use of a walking device is allowed” is not clear or something is missing and needs a revision.

6- In page 7, statistical analysis, could you please give a reference to the SPSS two-step clustering method?

7- In page 7, statistical analysis, have used parametric methods without testing the normality of the data?

8- In results paragraph, from the table 1 most scales are skewed “not normally distributed” as the standard deviations are too large. So means and SDs are not appropriate to describe the data. Could you please replace these by median and interquartile ranges?

9- Also in table 2 paired t-test is not appropriate in skewed data and Wilcoxon test should be used instead. But given the unbalance measures between groups at the admission, it would be appropriate to adjust for the baseline differences
using ANCOVA to assess the changes between groups.

10- In page 9, the last line in discussion paragraph, the wording “…higher predictive value…” is not clear, do you mean “age and disability seem to have a stronger association than …”? I believe the interpretation about these comparisons needs a multivariate analyses adjusting for any confounders. Maybe if you do adjusted analyses, you will find that the age could indeed be associated to functional outcomes as is commonly reported in the literature.

11- In discussion paragraph, isn’t it evident that some patients with poor outcome at the acute stage could improve in the first 3 months after stroke as part of stroke recovery which is reported in many previous studies? So acute data are not reliable as baseline data and the time between the admission to rehabilitation and date of first stroke should be reported for clarity.

12- In page 11, discussion paragraph, last sentence, could you please develop further, by using figures from your sample, how the cost of healthcare will decrease?

13- In result/discussion paragraph, I still believe a multivariate analysis is needed to confirm the finding.

Minor Essential Revisions:

14- In page 4, line 13, could you please change “The aims of our study were as follows:” to “The aims of our study are as follows:” Also the rest English expressions of this paper need some revision, particularly; it needs to look at the use of verbs.

15- In page 6, the repeated sentence about the BI/FAT/BBS validity in stroke research is not needed in the text. Could you please remove these 3 sentences and leave only their references.

16- In page 7, statistical analysis, the last sentence in the first paragraph. Do you mean “Cluster analysis was used to discriminate between structures in data”?

17- The bibliography has some unusual bold font and needs to be revisited.

18- In author contributions, could you please state the author who conducted the statistical analysis and the grantor of the study?

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

Declaration of competing interests:

I declare that I have no competing interests