Reviewer’s report

Title: The General Health Questionnaire-28 (GHQ-28) as an outcome measurement in a randomized controlled trial in a Norwegian stroke population

Version: 0 Date: 04 Sep 2018

Reviewer: Ian Kneebone

Reviewer’s report:

The main concern of this paper is to establish whether the factor structure of the GHQ-28 is the same in people with stroke as in other samples. On the basis of their findings the authors conclude there is a significant deviation from the original factor structure and on this account the findings of this measure should be interpreted with caution in this population.

While the paper is of interest I have a number of concerns about it's publication in its current form.

Major concerns:

1. The EFA and CFA have been conducted on the same sample. It is unsurprising that the findings of the latter were 'confirmatory'. The authors note this as a weakness of the study however I wonder whether their approach is significantly flawed on this basis. I would welcome expert statistical review on this point. A reference supporting this approach as acceptable would be useful to readers should it indeed be acceptable.

2. The authors state that they wish to establish the internal consistency, construct validity and measurement invariance of the GHQ-28 in their sample. With respect to the construct validity they fail to refer to this in their Method or Results. If what they are establishing is factorial validity, then this point should be clarified. If rather they are seeing construct validity as established by correlations between items and factors of > .3,(p11, line 2, they should make this explicit.

Minor concerns

p14, line 12. 'headache is a frequent complication of stroke'. Please reference

p14, line 15-16. 'known side effect of medications' Please reference.

p15, line 5-9. I don't think it is representative if there are the exclusions. Delete sentence.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.
I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal