Author's response to reviews

Title: Life satisfaction two-years after stroke onset: the effects on sex, occupational status, memory function and quality of life among stroke survivors (Newsqol) and their family caregivers (Whoqol-bref) in Luxembourg.

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Author's response to reviews: see over
Reviewers report
Title: Life satisfaction two-years after stroke onset: a study in Luxembourg of the effects of sex, occupational status, memory function and quality of life among stroke survivors (Newsqol) and their family caregivers (Whoqol-bref).
Date: 24 March 2012
Reviewer: Halvor Naess

Thank you very much for your valuable comments. The paper is entirely rewritten accordingly.

Reviewer's report:
This is a paper on life satisfaction and quality of life in stroke patients and caregivers. It is not an easy read and I have some major comments.

Major compulsory revisions
1. My first major concern is about the length of the paper. Both the abstract, background, methods, discussion and conclusion are far too long including too many details. It should be shortened by perhaps at least two thirds and it should focus on what is important in this particular study. There is for example too much speculation in the discussion. In stead the discussion should focus on the main findings in this study.

   We are grateful for your pertinent comments. The paper has entirely been rewritten and also shortened.

2. Life satisfaction is a simple measure. In spite of my concern about the length of the paper, I suggest that the authors explain the clinical meaning of this measure. How does it differ from measures on quality of life?

   Yes, according to your suggestion the meaning of life satisfaction is given in the 1st paragraph of the Background section: “a global perceptual measure of the degree of discrepancy between individual aspirations and achievements or contentment”.

   We added two new references:

   The quality of life, called by some authors health-related quality of life, measures different domains of health-related issues. The Whoqol-bref measures 4 domains that are physical health, psychological health, living environment, and social relationship. According to the WHO, it reflects different dimensions of health and also wellbeing. It is a good validated transcultural tool, appropriate for a sample including individual with various nationalities. It is a tool for all populations, and may be less appropriate for patients suffering from specific diseases as their particular issues are not and need to be investigated. So using the Newsqol, that has been created for stroke patients, is important to measure 11 specific domains of health-related QoL. This aspect is now considered in the last paragraph of page 3 which continues in page 4.

3. The objective of the study including hypotheses should be better stated in the background.

   The background section has been entirely rewritten according to your comment.

4. The main methodological short-coming of the study is the low response rate.

   This makes it difficult to make generalisations from this study as the patients may represent a highly selected group.
Yes, but as we have stated in page 9 (Strengths and limitations section) “The participation rate (25.1%) is rather small but similar to recent literature (27%) [45],” the low response rate is similar to that in the literature.

This short-coming might be improved by better characterization of the patients. Data on stroke subtype, risk factor profile, and some common surrogate marker for stroke severity such as modified Rankin scale, Barthel Index or NIHSS stroke scale should have been included.

Many thanks for your help. Your suggestion has led us to add the following paragraph (page 4): Characterization of the stroke severity, subtypes and risk factor profile of patients.

In the records of hospitalisation, the severity of the stroke could not be evaluated starting with a scale like the Index of Barthel or the score of modified Rankin, although these two scales were chosen by the expert neurologists of the project. When we had designed the study, the modified Rankin scale or the Barthel Index was supposed to be in the medical records. Unfortunately, no internationally recognised standardised scale was documented. The severity was estimated starting from the presence of clinical signs at the admission or at the time of maximum severity during the 1st week, at the occurrence of an auricular fibrillation during the hospitalisation and a severe arterial hypertension to the admission [28].

However, the questionnaire included a section on the stroke deficiencies [see appendix at the end of this paper]. We have used that information to compute the AHA.SOC as describe in the Methods section.

5. Another weakness is the relatively low number of patients.

Yes, partly because of inclusion/exclusion criteria. The relatively low number of patients would generally give small chance to find significant results. But despite their relatively small number, significant results were revealed, often with p<0.01. This highlights the strength of the investigated associations that is not concealed by the relatively small power of statistical tests.

6. Table 3 is perhaps the most interesting part of the study. However, it is difficult to read as I am not familiar with the statistical method applied. Was a statistician consulted? I am confused about the way patients and caregivers are included in the table. I recommend that you clearly structure the table in such a way that it is easy to understand when caregivers are included or not in the (I suppose) different models.

Many thanks for your pertinent remark. It led us to discuss with a PhD statistician. The Statistical analysis section has then been rewritten and simplified. Table 3 is modified accordingly.

7. The conclusion should be shortened and focus on the main finding of the study.

The conclusion has been rewritten to link it with the study results. It is also shortened.

8. In the abstract it is stated that LS is 7.1 patients on a scale from 1 to 10, but +12.8 for women. I realize this is a separate measure, but this is impossible to understand from the abstract alone.

Yes. LS scale from range to 1 at 10 and the slope is a coefficient of regression.

The abstract is rewritten.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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

The manuscript has been discussed with a PhD statistician. The Statistical analysis section has been rewritten and simplified. Table 3 is also modified.

Declaration of competing interests: I declare that I have no competing interests.
## Appendix 94 stroke patients

<table>
<thead>
<tr>
<th>Driving deficiencies</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetraplegic (4 members)</td>
<td>2.1</td>
<td>motor</td>
</tr>
<tr>
<td>Hemiplegic (2 members on the same side)</td>
<td>10.6</td>
<td>motor</td>
</tr>
<tr>
<td>Only one upper limb or lower</td>
<td>3.2</td>
<td>motor</td>
</tr>
<tr>
<td>Facial paralysis</td>
<td>6.4</td>
<td>motor</td>
</tr>
<tr>
<td>Other driving deficiencies</td>
<td>16</td>
<td>motor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visual deficiencies</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of half of the visual field</td>
<td>12.8</td>
<td>vision</td>
</tr>
<tr>
<td>Others disturb: visual field, color,…</td>
<td>7.4</td>
<td>vision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auditive deficiencies</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorders of hearing (loss, reduction, etc)</td>
<td>9.6</td>
<td>sensory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sensory deficiencies</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitive deficiencies (numbness, swarming, hot-cold,…)</td>
<td>25.5</td>
<td>sensory</td>
</tr>
<tr>
<td>Loss of the taste</td>
<td>9.6</td>
<td>sensory</td>
</tr>
<tr>
<td>Pains</td>
<td>23.4</td>
<td>sensory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiencies of the word and the communication</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total loss of word</td>
<td>3.2</td>
<td>language</td>
</tr>
<tr>
<td>Loss partial of language</td>
<td>2.1</td>
<td>language</td>
</tr>
<tr>
<td>Temporary loss of language</td>
<td>3.2</td>
<td>language</td>
</tr>
<tr>
<td>Inversion of words</td>
<td>9.6</td>
<td>language</td>
</tr>
<tr>
<td>Disorders of the voice</td>
<td>9.6</td>
<td>language</td>
</tr>
<tr>
<td>Disorders of comprehension</td>
<td>16</td>
<td>language</td>
</tr>
<tr>
<td>Disorder partial or total of reading and/or writing</td>
<td>19.1</td>
<td>language</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other deficiencies</th>
<th>%</th>
<th>AHA.SOC domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorders of the memory</td>
<td>31.9</td>
<td>cognition</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>19.1</td>
<td>affect</td>
</tr>
<tr>
<td>Personality disorders</td>
<td>17</td>
<td>affect</td>
</tr>
</tbody>
</table>
Reviewer's report
Title: Life satisfaction two-years after stroke onset: the effects of sex, occupational status, memory function and quality of life among stroke survivors (Newsqol) and their family caregivers (Whoqol-bref) in Luxembourg.
Date: 29 May 2012
Reviewer: Theresa Green

Thank you very much for your valuable comments. The paper is entirely rewritten accordingly.

Reviewer's report:
1. Major Compulsory Revisions
The underlying goal of the study is described on the bottom of page 4 as: “to meet the recommendations of the “Helsingborg Declaration on European Stroke Strategies” for 2015...to develop a primary healthcare system that provides preventative care and socio-educational help services.

We are grateful for your pertinent comments. The Declaration highlights the importance of stroke management in several areas in which family caregivers should play an essential role.

But, caregiver strain and its consequence on its LS have remained an under-researched area.

The paragraph is rewritten (page 3, 3rd paragraph)
a. I would like to see a summary purpose statement which describes exactly what this study was looking at.

According to your suggestion, the background has been rewritten. Its last paragraph is (page 4, 2nd paragraph): “The present study aimed at assessing, two years after stroke onset, the effects on the life satisfaction of stroke survivors of socioeconomic factors, impaired functions (motor, visual, sensory, language, and memory), quality of life (via Newsqol which measure stroke-related QoL domains), and their family caregivers’ QoL (via Whoqol-bref which measure physical, psychological, environment, and social relationship) in Luxembourg. The survey further evaluated the effects of these factors on the life satisfaction of family caregivers”.

b. Participants and procedures:
   i. Please provide a bit of clarity around the National Health Insurance statement – were participants selected based on the NHI administrative reimbursement database?

   The terms NHI and “patients selection by this system” are not appropriate. Your remark has led us to rewrite the sentences (1st paragraph of Method section, page 4). The NHI is replaced by the Social Security system which is the only national system for care expenditure reimbursement in Luxembourg. The system database allowed us to first identify all treated stroke patients. Then the diagnosis was confirmed by our research team. And next the inclusion criteria were applied leaving 374 patients to be retained and contacted.

   ii. What were the exclusion criteria for the study?

   The inclusion criteria were now given in the 1st paragraph of Method section, page 4:

   “Inclusion criteria:
   - living in Luxembourg at cerebrovascular disease,
   - hospitalization in Luxembourg between 1 July 2006 and 30 June 2007,
   - presentation with a clinically diagnosed stroke; hospital discharge code based on the International Statistical Classification of Diseases and Related Health Problems – 10th revision (ICD-10 codes: I60, I61, I62, I63, I64, and G46; patients who had transitory ischemic attacks (TIAs ) were excluded).

   Exclusion criteria:
- failure of patient or primary caregiver to understand one of the four languages used for the face-to-face survey (1 case),
- invalid address (11 cases).”

iii. What did the training for researchers to communicate with aphasic patients consist of?
Additional information is given according to your suggestion (last paragraph of page 4): “aphasic patients were not excluded because the researchers were trained to communicate with them. To interview aphasic patients or patients with troubles of elocution, researchers used a large laptop with a visual questionnaire. They could show it to the patients, and read the questions with them, and then the patients could answer with a pointer. They were also trained by an orthophonist to develop an empathetic and comprehensive attitude (because the time of these interviews was much longer)”.

c. Instruments:
i. Translations – were the translated versions of the questionnaires screened by like-speaking clinicians (i.e. physicians, nurses) to ensure clinical meaning was appropriate for the different language groups?
Further details were added (Methods section).

d. Discussion & Conclusions
i. You have posed several questions at the end of the discussion – what is the intent of asking these questions?
Your remark is pertinent. The discussion and the conclusion sections have been entirely rewritten.

ii. I think you overstate your results with your conclusions, especially with reference to government actions and economic recessions. Present what your work adds to the literature, which you did in the first couple of lines. Consider also that conclusions should only be 3-4 sentences and no new information presented that wasn’t already written about in the paper. Relate your conclusions back to the statement about Helsingborg Declaration.
Yes, the paper has been rewritten.

e. Methodological Aspects: subtitle the section as Strengths and Limitations
i. P 10, paragraph 2, lines 10-12 – inclusion of aphasic patients is a strength of the study, but the method around how they were included needs further explanation in the methods section.
Yes, additional information has been given in the Methods section.

2. Minor Essential Revisions
i. In the background section, paragraph 2, line 8: sentence beginning ‘Patient’s QoL…’ please rephrase this as it is awkwardly worded – I had to reread several times to get the intent.
All the background has been rewritten.

ii. Paragraph 3: sentence beginning ‘The impact of deprivation…’ – please define or describe what deprivation entails and how you are using it in the context of the study.
Yes, “deprivation” that is generally defined as a combination of several factors needs to be described. But we have preferred to use the term socioeconomic factors throughout the paper.

iii. Paragraph 4, line 6 – eliminate ‘The’ from beginning of sentence about caregiver burden and combine with the previous sentence.
The sentences are rewritten.
iv. You might consider subheadings in the background section – I was having a bit of trouble keeping concepts being discussed separated and then seeing the integration overall in informing the research study.

The background is entirely rewritten by limiting to 4 paragraphs and one paragraph for the aim of the study. Each paragraph concerns a specific problem which may not need subheadings.

v. Discussion section succinctly describes the results in relation to the outcomes of interest; authors posit potential explanations for the relationships observed.

The section is rewritten. It begins with a paragraph which succinctly describes the main results before discussions.

vi. Please integrate an explanation of the ‘health capability’ (reference needed here) with the initial use of the term directly - it is in the next part of the paragraph but needs to be better integrated with the first use of the term. You might write: “…face this challenge of life. Capability is defined as …”

The meaning of health capability is added after the term (full 2nd paragraph of p.8). One reference is added:


vii. P 9, 3rd paragraph, line 4: ‘concerned’ does not fit - ? involved

Yes, “involved” should be better.

Conclusions need to be enhanced and linked back to the stated purpose of the study. I.P 11, final paragraph, first line: awkward wording – try “Our research contributes to understanding the relationship between LS and QoL…”

The conclusion has been rewritten to link it with the study results.

ii. 3rd sentence – awkward – Try “As these tools…home, they can…”

The conclusion has been rewritten

iii. Suggest a new paragraph starting with “Our findings bring to light…”.

Your remark is helpful. The conclusion has been rewritten to link it with the study results.

3. Discretionary Revisions: n/a

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. The manuscript has been checked by a native English-speaking professional translator.

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics. The manuscript has been discussed with a PhD statistician. The Statistical analysis section has been rewritten and simplified. Table 3 is also modified.

Declaration of competing interests:

I declare that I have no competing interests.