

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The combined perceptions of people with stroke and their carers regarding rehabilitation needs one year after stroke: a mixed methods study
AUTHORS	Ekstam, Lisa; Johansson, Ulla; Guidetti, Susanne; Eriksson, Gunilla; Ytterberg, Charlotte

VERSION 1 - REVIEW

REVIEWER	William Levack University of Otago, New Zealand
REVIEW RETURNED	31-Oct-2014

GENERAL COMMENTS	<p>Title: The word 'dyads' in the title does not sufficiently describe whose perceptions are represented in this study. I would recommend that a better title would be something like "The combined perceptions of people with stroke and their carers regarding rehabilitation one year after stroke: a mixed methods study." A longer title, but more explicit for people reading about this study in an online database.</p> <p>Abstract: In the methods section, it would be best to list the instruments use if this can be included within the word count, rather than refer to them as 'established instruments'. My opinion is that the details regarding the use of the Stockholm County Councils computerised register is less important to include in the abstract than the exact measures used, and the following sentence ("The dyad's perceptions of the person... etc") uses up lots of the word count without contributing much extra information so could be abbreviated in some other way. The conclusion reported in the abstract appears to be: do more of everything (physical rehab, cognitive rehab, psychological rehab, social rehab). I would encourage the authors to rethink what the most significant implication is from their work, either in terms of ideas of future research or development of rehabilitation services, and focus the conclusion of their abstract on that instead.</p> <p>Methods:</p> <p>There is no justification for the sample size. The method should include with some statement about what sample size the researchers were aiming for and why. This of course should be based on some sample size calculation required to test the main aims of analysis in their research. At present the sample size appears opportunistic. The authors, in the discussion section, talk about how their analysis was potentially limited by the study's small sample size, but as there was no information to begin with regarding how big it should have been, the reader is left not knowing how much of problem this might have been.</p> <p>Similarly, there is no justification for the p-value used to detect clinical significance. It is stated on page 9 of 23 that the p-value was</p>
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adjusted to <0.01 to accommodate multiple comparisons, but this requires further explanation. Why was a p-value of 0.005 or 0.02 not chosen? Also, in the section on 'Caregivers perceived less caregiver burden in dyads where rehabilitation needs were met' (p. 13 or 23) a p-value of 0.03 is presented as if it *was* statistically significant, conflicting with the p-value of <0.01 reported in the methods. Decisions about p-values and how they were used to determine statistically significant differences needs to be clarified and used consistently because otherwise this study is at much higher risk of bias.

Like the authors, I found many of the results unsurprising: people who have more severe strokes are more likely to have an unmet rehabilitation needs a year after stroke, and carers of these people are more likely to report caregiver burden.

The data on people having or not having 'strategies to overcome the difficulties they experience' needs to be carefully interpreted. Currently the results read as follows: people who develop more strategies to overcome the difficulties they experience from stroke are less likely to have unmet rehabilitation needs a year after stroke. However, if people who have unmet rehabilitation needs are also the people more likely to have had severe strokes, then the difficulties they experience will be much more *challenging* in general than the difficulties experience by people who have met rehabilitation needs. Severity of stroke is therefore a confounding variable and needs to be accommodated in this analysis – or acknowledged as a limitation of the analysis. I worry about the results being interpreted as implying that people who don't try hard enough have a worse stroke outcome (i.e. victim blaming). Statements from people with stroke regarding lack of willpower might reflect the devastating nature of severe stroke rather than a personality deficit. It's also easy to retrospectively talk about one's personal determination if one stroke outcome has been successful!

Another limitation of this study is the lack of information on how much support (and/or interference) people with stroke received when completing the questionnaires. A large number of these people would have had communicative and/or cognitive impairments. I assume some facilitation was used to help people with stroke expressed their views, in which case this facilitation should be made explicit (who helped; how they helped etc). If no facilitation occurred than some people with stroke would have been excluded from the study due to the nature of their impairments, which would be another limitation worth discussing. In my experience, it is difficult in particular to collect sense of coherence data with people who have significant cognitive or communicative impairments because the questions in this measure require a high level of abstract interpretation. These kinds of issues ought to be discussed in the methods and discussion of the paper.

One final issue that made interpretation of this study difficult (for me) was trying to understand what was meant by having a perception of met versus unmet 'rehabilitation needs'. The implication of collecting data on met versus unmet rehabilitation needs is that this is different than collecting data on, for instance, having versus not having significant disabilities after stroke or having versus not having significant problems after stroke – that something else is being measured here. 'Met/unmet rehabilitation needs' as an outcome variable might partly reflect the severity of residual impairments or disability after stroke AND partly reflect people expectations regarding what rehabilitation services ought to offered or what health outcomes ought to be achieved through rehabilitation... and this in turn may partly reflect people's perspective on the degree of

	responsibility that a society (or their society) has to fund and provided such services. This could be influenced by their pre-stroke political dispositions (around topics such as distributive justice), by their stroke rehabilitation experience, and by a number of other similar diverse variables. In other words, it is unclear to me what people might mean when they say they have met or unmet rehabilitation needs – and this would be a topic for more detailed qualitative analysis. The authors may wish to raise some of these kinds of issues in their discussion; although I appreciate the word count for the paper may limit detailed consideration.
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REVIEWER	Niki Chouliara University of Nottingham United Kingdom
REVIEW RETURNED	16-Nov-2014

GENERAL COMMENTS	<p>This is an interesting and timely paper highlighting the need to consider both patients' and carers' perspectives in planning rehabilitation interventions. This is a relatively under researched topic and an important area for improvement in stroke rehabilitation practice. I believe, however, that the paper would benefit from some improvements particularly with regards to the presentation of findings.</p> <p>Data collection</p> <p>Page 7, line 52. This question seems to ask participants to think of hypothetical strategies that they could use in the future to improve performance. Could you please clarify whether they were actually asked to comment on strategies they already had in place?</p> <p>Page 8, line 3. "Questions were either written down by participants or answered orally". I think it would be useful to clarify the proportion of participants responding orally or in writing. In my opinion, participants completing a self-report survey including open ended questions is not an interview. Could you please provide more information on how the interviews were conducted by research assistants? Did they have any flexibility in wording/ sequencing questions? Was there any room for the interviewer to encourage further clarification of ambiguous answers or elaboration of brief comments?</p> <p>Analysis</p> <p>Page 9, line 55. Could you please clarify how the coding proceeded and whether categories were formed inductively or deductively? Similarly, I think more information is needed on how you integrated data from different sources.</p> <p>Results</p> <p>I think this section might be easier to follow if you used a figure or template to summarise the results of content analysis to allow the reader to get an overview of the key findings.</p> <p>Page 13, line 3. "This finding can be compared against those with unmet rehabilitation needs who did not have strategies to overcome the difficulties they experienced". Was that the case for all 25 respondents who reported unmet needs?</p> <p>Discussion</p>
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	<p>Page 15 – 23 “Perceived stroke related difficulties were less severe in dyads which reported met rehab needs. -“More major life events were reported in the qualitative data”, “met rehabilitation needs were associated with more coping strategies”- “met rehabilitation needs were associated with less severe stroke” (abstract)</p> <p>I find that you tend to describe your qualitative findings in quantitative terms without, however, presenting any indication of the prevalence of each theme. I would suggest replacing vague quantifiers such as “several persons” with the actual number or proportion of participants who endorsed each theme. I think the content analysis approach could actually facilitate this process.</p> <p>Page 17 –line 30. “Data from open ended questions was not rich enough to compare the partners in dyads” –Why do you think that was the case considering you had a sample of 86 participants?</p> <p>As a general comment I would suggest clarifying how you define stroke severity. As far as I am concerned the Barthel index is an established measure of ability to perform activities of daily living and not of stroke impairment per se. You don’t provide any information on whether this was actually the first or recurrent stroke or whether participants had previously received rehabilitation. I would have thought this lack of information would pose difficulties in understanding the relationship between stroke severity and satisfaction with rehabilitation. I would also be interested in your own hypotheses about this association in the discussion section. Did you look at whether patients’ function improved over the year and whether changes were related to their satisfaction with rehabilitation?</p> <p>I think the considerable discrepancy between carers’ and patients’ ratings (35% of dyads) is an interesting finding which is not however discussed. Would you have any hypotheses as to the source of this discrepancy?</p> <p>It might be useful to provide more information on what rehabilitation your participants received and whether your sample reflected the typical casemix for these services, in order to allow your readers assess the transferability/ relevance of your findings to other groups/contexts.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer's comment

Title: The word ‘dyads’ in the title does not sufficiently describe whose perceptions are represented in this study. I would recommend that a better title would be something like “The combined perceptions of people with stroke and their carers regarding rehabilitation one year after stroke: a mixed methods study.” A longer title, but more explicit for people reading about this study in an online database.

Authors' response

The title has been changed according to the suggestion.

Reviewer's comment

Abstract: In the methods section, it would be best to list the instruments use if this can be included within the word count, rather than refer to them as ‘established instruments’. My opinion is that the details regarding the use of the Stockholm County Councils computerised register is less important to include in the abstract than the exact measures used, and the following sentence (“The dyad’s

perceptions of the person... etc”) uses up lots of the word count without contributing much extra information so could be abbreviated in some other way. The conclusion reported in the abstract appears to be: do more of everything (physical rehab, cognitive rehab, psychological rehab, social rehab). I would encourage the authors to rethink what the most significant implication is from their work, either in terms of ideas of future research or development of rehabilitation services, and focus the conclusion of their abstract on that instead.

Authors' response

The abstract has been altered according to the suggestions i.e., the instruments have been listed and the conclusion altered to highlight the most significant implications.

Reviewer's comment

Methods:

There is no justification for the sample size. The method should include with some statement about what sample size the researchers were aiming for and why. This of course should be based on some sample size calculation required to test the main aims of analysis in their research. At present the sample size appears opportunistic. The authors, in the discussion section, talk about how their analysis was potentially limited by the study's small sample size, but as there was no information to begin with regarding how big it should have been, the reader is left not knowing how much of problem this might have been.

Authors' response

This study is based on secondary analyses of results from an observational study of the rehabilitation process during one year after stroke. Consequently the sample size was not determined based on the present study and no power calculation has been performed.

Reviewer's comment

Similarly, there is no justification for the p-value used to detect clinical significance. It is stated on page 9 of 23 that the p-value was adjusted to <0.01 to accommodate multiple comparisons, but this requires further explanation. Why was a p-value of 0.005 or 0.02 not chosen? Also, in the section on 'Caregivers perceived less caregiver burden in dyads where rehabilitation needs were met' (p. 13 or 23) a p-value of 0.03 is presented as if *was* statistically significant, conflicting with the p-value of <0.01 reported in the methods. Decisions about p-values and how they were used to determine statistically significant differences needs to be clarified and used consistently because otherwise this study is at much higher risk of bias.

Authors' response

The p value was set at <0.01 since it is a level of significance commonly chosen (instead of <0.05) to adjust for multiple comparisons. The reviewer correctly points out an erroneous p-value in the results section on 'Caregivers perceived less caregiver burden in dyads where rehabilitation needs were met'. The correct p value should be 0.003 and not 0.03. The p value has been corrected in the manuscript.

Reviewer's comment

Like the authors, I found many of the results unsurprising: people who have more severe strokes are more likely to have an unmet rehabilitation needs a year after stroke, and carers of these people are more likely to report caregiver burden.

The data on people having or not having 'strategies to overcome the difficulties they experience' needs to be carefully interpreted. Currently the results read as follows: people who develop more strategies to overcome the difficulties they experience from stroke are less likely to have unmet rehabilitation needs a year after stroke. However, if people who have unmet rehabilitation needs are also the people more likely to have had severe strokes, then the difficulties they experience will be much more *challenging* in general than the difficulties experience by people who have met rehabilitation needs. Severity of stroke is therefore a confounding variable and needs to be accommodated in this analysis – or acknowledged as a limitation of the analysis. I worry about the results being interpreted as implying that people who don't try hard enough have a worse stroke outcome (i.e. victim blaming). Statements from people with stroke regarding lack of willpower might reflect the devastating nature of severe stroke rather than a personality deficit. It's also easy to

retrospectively talk about one's personal determination if one stroke outcome has been successful!
Authors' response

We agree with the reviewer that it can be considered as a limitation that we do not know how the different variables interact. A larger sample size would have allowed the testing of the variables in a multivariate analysis or in subgroups with regard to disease severity. This limitation has now been addressed in the manuscript, discussion section, fifth paragraph. The following text has been added: Another limitation is the small sample size which did not allow for analyses of plausible interactions between the different variables.

Reviewer's comment

Another limitation of this study is the lack of information on how much support (and/or interference) people with stroke received when completing the questionnaires. A large number of these people would have had communicative and/or cognitive impairments. I assume some facilitation was used to help people with stroke expressed their views, in which case this facilitation should be made explicit (who helped; how they helped etc). If no facilitation occurred than some people with stroke would have been excluded from the study due to the nature of their impairments, which would be another limitation worth discussing. In my experience, it is difficult in particular to collect sense of coherence data with people who have significant cognitive or communicative impairments because the questions in this measure require a high level of abstract interpretation. These kinds of issues ought to be discussed in the methods and discussion of the paper.

Authors' response

Data from people with stroke was collected by means of interviews which made it possible to explain how the questionnaires were to be filled out and make sure that they understood the questions correctly. Nevertheless, as the reviewer correctly points out, the sense of coherence data have missing values, depicted in table 2. To clarify the data-collection procedure the following has been added in the methods section first paragraph, added text in yellow:

After informed consent, the baseline assessment within the first week after stroke and follow-ups at 3, 6 and 12 months after stroke onset were carried out, mainly during home visits through structured (questionnaires) and semi-structured (open-ended questions) interviews, by a research assistant (i.e. a purposely trained occupational therapist or a physiotherapist).

Reviewer's comment

One final issue that made interpretation of this study difficult (for me) was trying to understand what was meant by having a perception of met versus unmet 'rehabilitation needs'. The implication of collecting data on met versus unmet rehabilitation needs is that this is different than collecting data on, for instance, having versus not having significant disabilities after stroke or having versus not having significant problems after stroke – that something else is being measured here. 'Met/unmet rehabilitation needs' as an outcome variable might partly reflect the severity of residual impairments or disability after stroke AND partly reflect people expectations regarding what rehabilitation services ought to be offered or what health outcomes ought to be achieved through rehabilitation... and this in turn may partly reflect people's perspective on the degree of responsibility that a society (or their society) has to fund and provided such services. This could be influenced by their pre-stroke political dispositions (around topics such as distributive justice), by their stroke rehabilitation experience, and by a number of other similar diverse variables. In other words, it is unclear to me what people might mean when they say they have met or unmet rehabilitation needs – and this would be a topic for more detailed qualitative analysis. The authors may wish to raise some of these kinds of issues in their discussion; although I appreciate the word count for the paper may limit detailed consideration.

Authors' response

We fully agree with the reviewer that more knowledge is needed on what issues underlie the perceptions of met versus unmet needs.

The limitation in word count limits detailed elaboration but the following text in yellow has been added in the discussion section, fifth paragraph:

Future studies would benefit from more in-depth knowledge on the characteristics of rehabilitation needs and qualitative studies on the dyad's expectations for post-stroke rehabilitation.

Comments from Reviewer 2

Reviewer's comment

Data collection

Page 7, line 52. This question seems to ask participants to think of hypothetical strategies that they could use in the future to improve performance. Could you please clarify whether they were actually asked to comment on strategies they already had in place?

Authors' response

The participants were not specifically asked to comment on strategies. The questions were framed as: '1a) how do you think your daily activities work for you today? 1b) is there anything that has changed (mention three examples of activities that have become harder to perform)? 2) Do you have any thoughts about how this (activities that have changed) might work better, such as how you could solve the problem?'

In their answers some of the participants described strategies that they were already using and some described thoughts about the future and ideas for strategies or solutions.

Reviewer's comment

Page 8, line 3. "Questions were either written down by participants or answered orally". I think it would be useful to clarify the proportion of participants responding orally or in writing. In my opinion, participants completing a self-report survey including open ended questions is not an interview. Could you please provide more information on how the interviews were conducted by research assistants? Did they have any flexibility in wording/ sequencing questions? Was there any room for the interviewer to encourage further clarification of ambiguous answers or elaboration of brief comments?

Authors' response

The reviewer has identified an important error in the text. All the persons with stroke answered the questions orally and their answers were written down by the research assistants. The caregivers also mainly answered the questions orally and their answers were written down by the research assistants but in some cases, if the caregiver was not present during the home visit, a questionnaire was left for the caregiver and was to be returned by post in a stamped envelope. The procedure has been clarified in the manuscript, methods section/persons with stroke, paragraph 4:

The answers to the questions were answered orally by the participant and then written down by the research assistant.

And methods section/informal caregiver, paragraph 3:

The answers to the questions were mainly answered orally by the participant and then written down by the research assistant or in some cases written down by the caregiver.

Reviewer's comment

Analysis

Page 9, line 55. Could you please clarify how the coding proceeded and whether categories were formed inductively or deductively? Similarly, I think more information is needed on how you integrated data from different sources.

Authors' response

We have now clarified, under data analysis, second paragraph, how the coding proceeded and how the data from different sources were integrated. In order to help the reader to get an overview of the analysis process and the key findings a new table has been added.

Reviewer's comment

Results

I think this section might be easier to follow if you used a figure or template to summarise the results of content analysis to allow the reader to get an overview of the key findings.

Authors' response

A table has been added to the manuscript.

Reviewer's comment

Page 13, line 3. "This finding can be compared against those with unmet rehabilitation needs who did not have strategies to overcome the difficulties they experienced". Was that the case for all 25 respondents who reported unmet needs?

Authors' response

This was the case for all 25 respondents who reported unmet needs.

Reviewer's comment

Discussion

Page 15 – 23 “Perceived stroke related difficulties were less severe in dyads which reported met rehab needs.

-“More major life events were reported in the qualitative data”, “met rehabilitation needs were associated with more coping strategies”-“met rehabilitation needs were associated with less severe stroke” (abstract)

I find that you tend to describe your qualitative findings in quantitative terms without, however, presenting any indication of the prevalence of each theme. I would suggest replacing vague quantifiers such as “several persons” with the actual number or proportion of participants who endorsed each theme. I think the content analysis approach could actually facilitate this process.

Authors' response

The qualitative results illustrate the core findings from the majority of the participants. To clarify this we have altered "several" to "most" in the results section.

Reviewer's comment

Page 17 –line 30. “Data from open ended questions was not rich enough to compare the partners in dyads” –Why do you think that was the case considering you had a sample of 86 participants?

Authors' response

Data-collection comprised a wide range of assessments, mainly questionnaires and tests. The qualitative open-ended question was the first question in the test battery and the answers were not tape recorded but written down. This may be one explanation for why the answers were not so exhaustive. It is also possible that those of the caregivers who were not interviewed but wrote down their answers may have been brief in their replies.

Reviewer's comment

As a general comment I would suggest clarifying how you define stroke severity. As far as I am concerned the Barthel index is an established measure of ability to perform activities of daily living and not of stroke impairment per se. You don't provide any information on whether this was actually the first or recurrent stroke or whether participants had previously received rehabilitation. I would have thought this lack of information would pose difficulties in understanding the relationship between stroke severity and satisfaction with rehabilitation. I would also be interested in your own hypotheses about this association in the discussion section. Did you look at whether patients' function improved over the year and whether changes were related to their satisfaction with rehabilitation?

Authors' response

The Barthel Index has been examined in relation to the Scandinavian Stroke Scale (SSS) and the National Institutes of Health Stroke Scale (NIHSS), and been found to have excellent agreement when categorized (ref 20). Information on previous stroke has been added in the results section:

In the sample, 22 (26%) had experienced a previous stroke.

We do not have information on whether the participants had any previous experience from rehabilitation, in conjunction with previous stroke or any other condition. In table 2 we present information on the amount of rehabilitation the participants had used after stroke onset and as stated in the manuscript there were no differences in perception of rehabilitation needs with regard to the use of rehabilitation services.

The present study has a cross-sectional design. We agree with the reviewer that it would have been interesting to explore changes in functioning over time and plausible associations with the perceptions of rehabilitation needs but this would have required a larger sample size.

Reviewer's comment

I think the considerable discrepancy between carers' and patients' ratings (35% of dyads) is an interesting finding which is not however discussed. Would you have any hypotheses as to the source of this discrepancy?

Authors' response

We agree with the reviewer that this is a very interesting finding. Plausible explanations could be that the individuals in the dyad are at different stages in their reorientation process. It may possibly be different at longer follow-ups, but will perhaps never be consistent if there are problems related to awareness. The following text has been added in the discussion section:

The discrepancy in perception between persons with stroke and caregivers in the discordant group may reflect that the individuals in the dyad are at different stages in their reorientation process or that there are problems related to awareness.

Reviewer's comment

It might be useful to provide more information on what rehabilitation your participants received and whether your sample reflected the typical casemix for these services, in order to allow your readers assess the transferability/ relevance of your findings to other groups/contexts.

Authors' response

All participants received the ordinary rehabilitation services. Since no differences in perception of rehabilitation needs with regard to the use of rehabilitation (number of inpatient days and outpatient contacts) services were found we have not included detailed information on type of rehabilitation. To clarify the generalizability of our results the following text has been added in the discussion section, fifth paragraph:

However, the study was based on a cohort representing a population of all persons admitted to the stroke units during one year and the proportions of stroke severity are similar to a previous national Swedish one-year follow-up study. 3

VERSION 2 – REVIEW

REVIEWER	William Levack University of Otago, New Zealand
REVIEW RETURNED	16-Dec-2014

GENERAL COMMENTS	<p>Thank you to the authors of the time they have taken to revise their manuscript. There is a lot that is positive about these revision. I do have a few remaining comments however about the paper (see below).</p> <p>1. Justification for sample size. I accept the authors' point that no sample size calculation could be made for this study because it involved secondary analysis of data from a prior observational study. I would suggest however that it is made explicit in the method section that this study involved 'secondary analysis' of an existing data set from the longitudinal observational study (LAS-1), so that this is made clear to the reader as well.</p> <p>2. Selection of p-value. I'm not convinced by the justification for the adjusted p-value of <0.01, which was that this is commonly chosen for multiple comparison. There is a lot of debate about how best to adjust p-values for multiple comparisons, but most commonly this is determined using some kind of mathematical correction which is derived in part from the number of statistical tests being conducted. I suggest the author discuss this issue with a biostatistician, but one (of many) useful introductory text on the subject is: Bender, R., & Lange, S. (2001). Adjusting for multiple testing—when and how?. <i>Journal of clinical epidemiology</i>, 54(4), 343-349. Regardless of the method used to adjust p-values, I would be satisfied if a reference were made in the paper to the text on which the adjusted p-value was derived.</p> <p>3. Limitations on analysing interactions between variables. I agree with the authors that the small sample size limited their ability to formally test interactions between variables, and appreciate the addition of the sentence to this effect in the discussion. However, given that severity of stroke is identified in the paper as being</p>
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	<p>statistically associated with categorisation of people as having met versus unmet rehabilitation needs, it seems important to identify this as highly likely to be a confounding variable in other interactions. This probably should be mentioned in the discussion, and I would prefer it if it was explicitly mentioned in reference to the observed relationship between people having or not having 'strategies to overcome the difficulties experienced', as mild stroke produce minor problems to overcome, whereas severe stroke produces major problems to overcome. More serious problems required more complex or intensive strategies to overcome them, plus of course more serious cognitive problems associated with more serious stroke are likely to impede people's ability to come up with solutions. These are very reasonable interpretations of the results that have been presented, and provide an explanation for the findings that do not rely on assumptions regarding the patient's personal motivation or effort (which is currently implied in the way the results are presented).</p> <p>4. Missing data on the SOC scale. Thank you to the authors for pointing out the number of missing data points for the SOC data is provided in Table 2. Given the the SOC data was the only variable that suffered this loss, my feeling is that this would be something worthy of highlighting in the results - i.e. I'd recommend including a sentence along the lines of 'SOC data was only available for 74 of the 86 participants (see Table 2).'</p>
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REVIEWER	Niki Chouliara University of Nottingham, UK
REVIEW RETURNED	30-Dec-2014

GENERAL COMMENTS	<p>Inquiry on page 13,line 3. "This finding can be compared against those with unmet needs who did not have strategies to overcome the difficulties they experienced". Further to your response, do you mean that none of the 25 respondents with unmet needs had any strategies in place? In the discussion you mention that "people whose rehab needs were met had more strategies for solving everyday problems". Did they have none or more than those with met needs? Considering that respondents were never specifically asked to comment on strategies could it be that patients did have some strategies in place but never actually mentioned them in the interviews? I suggest re-wording to clarify that these findings are based on subjective self-reports.</p> <p>You suggest that you added a table with an overview of the key findings but I cannot find it in the manuscript I received. I can see that you have added a table with examples of the coding process.</p>
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VERSION 2 – AUTHOR RESPONSE

Comments from Reviewer 1

Reviewer's comment

Justification for sample size. I accept the authors' point that no sample size calculation could be made for this study because it involved secondary analysis of data from a prior observational study. I would suggest however that it is made explicit in the method section that this study involved 'secondary analysis' of an existing data set from the longitudinal observational study (LAS-1), so that this is made clear to the reader as well.

Authors' response

The following text has been added in the method section, first paragraph:

This study was based on secondary analysis of data from a prospective observational study of the rehabilitation process after stroke named 'Life After Stroke phase 1' (LAS-1).

Reviewer's comment

Selection of p-value. I'm not convinced by the justification for the adjusted p-value of <0.01 , which was that this is commonly chosen for multiple comparison. There is a lot of debate about how best to adjust p-values for multiple comparisons, but most commonly this is determined using some kind of mathematical correction which is derived in part from the number of statistical tests being conducted. I suggest the author discuss this issue with a biostatistician, but one (of many) useful introductory text on the subject is: Bender, R., & Lange, S. (2001). Adjusting for multiple testing—when and how?. *Journal of clinical epidemiology*, 54(4), 343-349. Regardless of the method used to adjust p-values, I would be satisfied if a reference were made in the paper to the text on which the adjusted p-value was derived.

Authors' response

To adjust for multiple comparisons by lowering the p value is a method we have chosen based on recommendation from our experienced statistician. She argues that the Bonferroni method can be very conservative if you analyze many variables or perform many tests. All tests may not be independent, then the correction with Bonferroni is too conservative. A reference has been added to the manuscript.

Reviewer's comment

Limitations on analysing interactions between variables. I agree with the authors that the small sample size limited their ability to formally test interactions between variables, and appreciate the addition of the sentence to this effect in the discussion. However, given that severity of stroke is identified in the paper as being statistically associated with categorisation of people as having met versus unmet rehabilitation needs, it seems important to identify this as highly likely to be a confounding variable in other interactions. This probably should be mentioned in the discussion, and I would prefer it if it was explicitly mentioned in reference to the observed relationship between people having or not having 'strategies to overcome the difficulties experienced', as mild stroke produce minor problems to overcome, whereas severe stroke produces major problems to overcome. More serious problems required more complex or intensive strategies to overcome them, plus of course more serious cognitive problems associated with more serious stroke are likely to impede people's ability to come up with solutions. These are very reasonable interpretations of the results that have been presented, and provide an explanation for the findings that do not rely on assumptions regarding the patient's personal motivation or effort (which is currently implied in the way the results are presented).

Authors' response

We agree with the reviewer that this is an important and have added the following text to the discussion section, third paragraph:

Since stroke severity was less severe in dyads which reported met rehabilitation needs it is likely to be a confounding variable as mild stroke may result in minor problems to overcome, whereas severe stroke may lead to major problems to overcome requiring more complex or intensive strategies.

Reviewer's comment

Missing data on the SOC scale. Thank you to the authors for pointing out the number of missing data points for the SOC data is provided in Table 2. Given the SOC data was the only variable that suffered this loss, my feeling is that this would be something worthy of highlighting in the results - i.e. I'd recommend including a sentence along the lines of 'SOC data was only available for 74 of the 86 participants (see Table 2).

Authors' response

The suggested sentence has been added in the results section, first paragraph:
 SOC data was only available for 74 of the 86 participants (see table 2).

Comments from Reviewer 2

Reviewer's comment

Inquiry on page 13, line 3. "This finding can be compared against those with unmet needs who did not have strategies to overcome the difficulties they experienced". Further to your response, do you mean that none of the 25 respondents with unmet needs had any strategies in place? In the discussion you mention that "people whose rehab needs were met had more strategies for solving everyday problems". Did they have none or more than those with met needs? Considering that respondents were never specifically asked to comment on strategies could it be that patients did have some strategies in place but never actually mentioned them in the interviews? I suggest re-wording to clarify that these findings are based on subjective self-reports.

You suggest that you added a table with an overview of the key findings but I cannot find it in the manuscript I received. I can see that you have added a table with examples of the coding process.

Authors' response

Since the key findings of this study are the results based on a combination of the analysis of the qualitative and the quantitative data we do not think it is of great value to provide a table to summarize the qualitative data. A qualitative content analysis like the one we adopted in this paper is not based on frequencies but is merely searching for patterns of similarities and differences. However, we agree with the reviewer that some clarification is warranted regarding strategies on page 13 and have added the following information in the results section, subheading "Dyads' rehabilitation needs related to the persons with stroke's use of strategies to overcome problems":

This finding can be compared against those with unmet rehabilitation needs where persons with stroke in dyads with unmet needs did not report strategies to overcome the difficulties they experienced and only some persons with stroke with unmet needs in the discordant dyads reported strategies.

We also agree with the reviewer that the participants may have had strategies that they did not mention in the interview and the following text has been added to the discussion section, third paragraph:

Furthermore, the findings are based on self-report and since the participants were not specifically asked to comment on strategies it is possible that they had some strategies in place that they did not mention in the interviews.

VERSION 3 - REVIEW

REVIEWER	Niki Chouliara University of Nottingham UK
REVIEW RETURNED	18-Jan-2015

GENERAL COMMENTS	Thank you for revising the paper in line with suggestions
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