Reviewer’s report

Title: Extra upper limb practice after stroke: a feasibility study

Version: 0 Date: 14 Jun 2019

Reviewer: Susan Stirling

Reviewer's report:

Extra upper limb practice after stroke: a feasibility study

Manuscript Number: PAFS-D-19-00093

This is a study looking at the feasibility of extra upper limb practice in addition to usual rehabilitation following stroke in adults.

I have the following comments:

Major

1. In their review of previous work in this area the authors state "stroke survivors perceive that their time spent in upper limb rehabilitation was not sufficient" and "There is high-level evidence that an increase in the amount of supervised rehabilitation improves motor outcome for stroke survivors" (P7). To the lay person, this could suggest that stroke survivors would benefit from longer time spent on "usual" rehabilitation, but the description of the intervention reads as if it comprises some different rehabilitation techniques not currently part of standard care. I think it would be useful for the authors to briefly describe what standard care comprises, and whether the intervention consists of more time spent on the same rehabilitation techniques, or the introduction of further new rehabilitation techniques. If the latter, it may also be useful to justify the use of new techniques.

2. The comment in the conclusion that "The magnitude of the clinical outcomes suggest that a Phase II Randomised trial is warranted" is based on the apparent improvement of the clinical measurements at week 4 compared to week 0, but no consideration is given to how participants would have fared on supervised rehabilitation only. A useful addition to the discussion would be some justification of the lack of a control arm.

3. It is unusual to discuss statistical significance in a study that is not powered to detect a difference; however the authors quote p-values in their results.
4. Recruitment: although feasibility of recruitment is mentioned in the Background, this has not been framed as question in the list of primary questions of the study. The authors should also consider recruitment as a percentage of all those screened, in order to inform the recruitment strategy of a possible future definitive trial.

5. It’s unclear how the authors calculated the number of possible sessions - is this 6 days × 4 weeks × 20 participants, taking into account those who were discharged earlier than the 4 week intervention period? How much of the intervention was completed by the 7 who were discharged early? Were they a day or 2 early, or sooner than this? With a third of participants discharged prior to the end of the intervention period, have the authors considered whether the intervention period of 4 weeks is too long?

6. The authors include information about time spent on extra upper limb practice in their discussion of the trial. Had the authors considered inclusion of this information in the results?

7. The authors say "We recommend that future trials designed to deliver extra upper limb practice to adults undergoing inpatient rehabilitation use a group format at the end of the day" (P12). However, as timing of the rehabilitation was not one of the feasibility questions, I wonder how relevant this comment is?

8. In the discussion the authors state "The change observed…above what would normally be expected over a month of inpatient rehabilitation", however there is no indication of what would be expected over a month of inpatient rehabilitation. The following sentence refers to a finding from the literature which is an estimate of improvement due to "time alone" (ie, presumably, with no rehabilitation whatsoever). I think this section needs further consideration and perhaps rewording?

Minor

1. Is it appropriate to refer to Box and Block Test, Nine-hole peg Test and grip strength collectively as "Benefit" when measured at baseline? (P2). Would the authors consider rewording this?

2. An indication of current practice/time spent on upper arm rehabilitation would be a useful inclusion in the background; the necessary 240% increase in usual rehabilitation is not very informative on its own.
3. P7, Clinical section. "The ability to grasp and release was quantified by number of blocks moved in 60 seconds (number of blocks/s) - can the authors clarify whether the measure was blocks per second or blocks per 60 seconds (ie minute)

4. Data analysis P8 "mean (SD) and number (%)" should read "mean (SD) or number (%)

5. Results - why were "4(20%) participants scheduled to receive no upper limb rehabilitation" (P8)?

6. Table 1 presents Length of Stay until discharge but the nature of the stay is unclear. If this measure is referring to the stay in rehabilitation then it is not appropriate to present in a table of baseline characteristics. If this is referring to the hospital of admission immediately following the stroke (and prior to admission for rehab) then this should be made clear in the table.

7. P9, third line of text: "one had (5%)" should be "one (5%) had"

8. Table 3 - what does the reference value mean and why does it need to be included here?

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

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

Were you mentored through this peer review?

No