Author’s response to reviews

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

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Author’s response to reviews:

We thank the reviewer for the opportunity to respond to reviewer and editor comments.

Reviewer 1 (numbers reflect initial feedback)

2. Suggest modification of final sentence of conclusion in the abstract, so that it reads similarly to the final line of the conclusion on P14.
- The final sentence of the abstract has been modified so that it reads similarly to the final line of the conclusion. It now reads: “The magnitude of the clinical outcomes suggest that further investigation is warranted and this study provides useful information for the design of a Phase II Randomised trial.”

3. Thanks, also recommend deletion of “Statistical significance was set at 0.05” (P9)
- The sentence has been deleted.

4. My original comment was that "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 respond that "Feasibility of the intervention is first in the list of primary questions". However I still feel if recruitment is being assessed then it should specifically be stated in the list of primary questions (as it is further on in the methods section). I am still unable to see recruitment as a percentage of all those screened, which I think would be 20 (recruited) / 212 (screened) = 9.4%
- We have now included the definition of feasibility in the background and within the primary questions.
The research question now reads: “Is it feasible (in terms of recruitment, intervention and measurement) for people who are undergoing inpatient rehabilitation and have some movement in the upper limb after stroke to undertake an extra hour of upper limb practice, 6 days per week for 4 weeks?”
- We have now added this into the manuscript:
Abstract: “Of the 212 people who were screened, 42(20%) were eligible, and 20 (9%) were enrolled.”
Method: “Feasibility of recruitment was determined by calculating the proportion of eligible and enrolled patients from the population who were admitted to the inpatient rehabilitation unit with stroke.”
Result: “Over an 11 month period, 212 people were screened, 42 (20%) were eligible, and 20 (9%) were enrolled.”

5. I appreciate the authors comments regarding consideration of supporting participants following discharge, but feel this does not fully address the issue of whether an intervention of 4 weeks is too long.
- In the limitations section, the sentence now reads: “This suggests that future trials either need to continue the program after discharge or reduce the duration from 4 to 3 weeks.”

6. The authors state in the discussion that "Adults undergoing inpatient rehabilitation were able to undertake a mean of 57 minutes of extra upper limb practice during a mean session of 73 minutes", but I am still unable to locate this information in the results section.
- This information is now reported in the results section: “Participants undertook a mean of 57 (SD 9) minutes of extra upper limb practice during a mean session of 73 (SD 10) minutes.”

7. In reference to the line "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” in the discussion:
As timing of session was not a feasibility question, and results regarding timing are not presented, it would be more useful to discuss session timing as a factor possibly affecting adherence, than to recommend that sessions take place at the end of the day.
- We have now edited this paragraph to read: “Therefore, the extra upper limb practice was often undertaken after usual rehabilitation and before dinner (4.30-5.30pm) and within the common space in the ward to reduce transportation and where nursing staff could ensure the safety of the participants during self-directed practice. 72% of the self-directed practice was undertaken in a group in the ward. We recommend that future trials designed to deliver extra upper limb practice to adults undergoing inpatient rehabilitation consider (i) using a group format and (ii) the timing of sessions.”

17. Additional comment (not noticed previously) P8 line 181: "holds" should be "holes"
- Corrected.

Reviewer 2 (numbers do not reflect original feedback)

1. Length of stay was identified as an important factor for design of interventions. 35% of the sample did not complete the 4 weeks planned intervention. This is a very important issue for study designs, and ensuring interventions are suitable for real world situations. An additional sentence would be helpful in the manuscript, especially to help other researchers plan suitable durations of interventions.
- We have addressed this issue in the response to reviewer 1 comment #5

2. Please clarify what "scheduled upper limb therapy" means in the context of the MDT. This could vary from place to place, with some MDT having specific UL classes. In other places it
could have different classifications. This could be clearer with a couple of examples of what constituted UL therapy in routine care.

- The following sentence has been added to the intervention section: “Usual upper limb rehabilitation could include a combination of individual and group sessions provided by occupational therapists and/or physiotherapists targeting task-specific motor training of the affected upper limb.”

3. Discussion, last paragraph, line 263. The "100%" needs clarification, as could be misleading. The sentence would be clearer by saying "rates of dexterity increased by 100%" (or similar).

- We have amended the sentence to include the time (rate = % / time). The sentence now reads: “For example, it has been suggested that time alone accounts for 16% improvement in impairments over 6-10 weeks (37) compared with our 42% improvement in grip strength and 100% improvement in upper limb activity over 4 weeks.”

4. In reference to original feedback number 6, intervention: I appreciate that staff were used to measure the dose as part of the study. It would be helpful to know how much staff time was needed to get the self-directed exercise program to occur on the ward environment. This can be quite a challenge to set up. It would be helpful to unpack what was needed for the study vs what was needed to set up practice in a clinical setting. Did patients initiate the program without prompts by staff? Then if a majority of practice was done in a group setting, how much staff time did that take to get it happening? And would that need to be a highly trained therapist or just a person to prompt the participants to get together. I would like a little more elaboration of these issues to address reviewer 2’s query (no 6 on the table). These are important for implementing practice and designing studies.

- While these issues about staff delivery of the extra practice are important, we do not have any data that addresses this. However, we have found that the intervention was feasible to deliver and we have added the following sentences to the intervention section to provide more insight into the delivery of the intervention:

  “Therapists provided direction and encouragement to practice…”

  “The therapist provided the participant one of six GRASP kits (manual and equipment) at the start of each session.”

  “To set-up the equipment the therapist provided the participant with a pre-packed GRASP kit or laptop.”

  “The time of the extra practice session was scheduled on the participant’s timetable to ensure the participant was ready for each session.”