Reviewer’s report

Title: Evidence-based practice in stroke rehabilitation: Knowledge translation and implementation

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Reviewer: Annie McCluskey

Reviewer’s report:

General comments:
As a therapist who knows the GRASP program, and how popular it is has become because of the availability of the free online protocol, I was pleased to review this study. A strength of the study was retrospectively capturing the experiences and reflections of 20 therapists across 8 sites. The manuscript is well edited but several sections of the paper require more clarity and focus, particularly the results and discussion. There were no clear contributions to knowledge, or research/practice implications. The results could be improved by more careful selection of quotes and review of the labels for categories. I found the results difficult to read – perhaps because it was complicated by use of two frameworks and multiple unfamiliar terms. For this paper to be useful to clinicians and implementation researchers, key messages and findings need to be clearer and more accessible.

1. Was the question posed by the authors (and were the aims) well defined?
   • No questions were reported/stated.
   • Aims of the study: Study aims were included but were rather broad in the introduction and abstract (“to explore KT and implementation of GRASP in the province of BC using implementation frameworks”). Is it the steps and process of KT, or the those who adopt/don’t adopt?
   • In the abstract, it wasn’t clear why a retrospective exploration was conducted – as opposed to prospectively. Nor is it clear if the researchers were exploring the process, or steps of implementation/KT.

MINOR ESSENTIAL REVISIONS: Revise aim - make the purpose of the study aim clearer and more specific, in the abstract in particular.

2. Are the methods appropriate and well described?

Page 2 - In the abstract, more information is needed in ‘Methods’ about the use of theoretical frameworks – add a brief description of each framework.

Page 2 - Abstract again – how many sites participated (‘…20 rehab staff across X sites.’)?

Page 4 (Method) clearly state how many cities there are in BC, how many people admitted to hospitals in BC each year with a stroke, and how many sites were approached/how many approx. exist in BC (public/Private hospitals). Context is
required.
Page 5 (data collection) – Readers need a summary of the theoretical frameworks being used – what is the NPT? What is the process/steps or components of NPT
Page 5 (Data analysis) – unclear why CFIR was selected over other theories – what is CFIR (provide a short description of the components of CFIR) .
Page 5-6 (Data analysis) – Needs more description of quality processes used to maintain rigor in the study (eg member checking ? peer checking? Audit trail?) Particularly when two complex frameworks were being used during analysis and interpretation.

MAJOR ESSENTIAL REVISIONS: i) Describe both theoretical frameworks in methods (ii) add info about number of sites in methods (iii) state whether peer checking and member checking were used or not, and expand on how rigor/quality was maintained during interpretation and analysis (iv) describe how quality was maintained by researchers coding the quotes and/or between primary researcher and co-researchers when two complex frameworks were being used.

3. Are the data sound (Results, pages 6-14)?
Overall I felt that the findings needed more work (major revision) to tighten up the labels, quotes selected and links/relationships between categories. Reading the findings was difficult. The transitions between categories and labelling need to be improved.
Page 6 – very good – but I would have liked a description of NPT processes EARLIER in the paper (either in background or methods)
KT (page 7) – suggest the authors revise the ‘label’ given to this category (eg “Knowledge of GRASP”) to better reflect the content and quotes.

There is reference on page 7 to ‘a core group of therapists and practice leaders who…initiated a ‘working group’ and tool responsibility for translating the knowledge of GRASP in the province of BC’. It isn’t clear if some or all of these therapists were involved as recruiters or treating therapists in the GRASP RCT – were they or not?

Page 9 – top paragraph – ‘Although participants displayed positive attitudes towards the idea behind the intervention, the overall value placed in the intervention was not as consistently positive. The predominant concern of participants was that exercise outside of therapy time can results in poor quality movement and this compromise the gains made in therapy’ – this is an important statement and learning and I wanted to know HOW MANY of the 20 therapists had this view? Was it 5/20 or 10/20 or 19/20? I know that we don’t usually provide numbers in qual research but I’d recommend improving on the general statement (eg More than half of the 20 therapists….’ or ‘ 15 of the therapists interviewed held this view..’)

Page 9 – last parag – ‘The primary model for supporting the implementation – do
you mean ‘strategy for supporting implementation’? Why use the term ‘model’?

Page 10 – “The intervention despite being specifically cited within the CBPRSR [13] still remains an option to be used by staff”. Please quote or paraphrase the detail from the Canadian guidelines in the background literature review

Page 11 – the term ‘collective action’ is used for this section but the quotes provided don’t seem to reflect collective action (eg “I think that it would be much more effective if I was able to give them a package…then it’s a lot easier for me to upgrade it when I know that they got the right equipment” and “we don’t give the full manual anymore because of cost to the hospitals’). These quotes seem to reflect resources not collective action.

Page 12 – Reflexive monitoring – again the quotes don’t seem to be about monitoring (eg “is it actually being used in the truest form…the research form, probably not, so I don’t know that its benefiting”……and ‘you know he wasn’t using his hand and how he uses his hand to tuck his shirt in, in his pants, which you know was a big thing for him So when I hear those things, that kind of has more validity I thin that this number when up”. Perhaps there are better quotes about monitoring, but these quotes seem to be more about reflection, but not monitoring.

Page 13 – quotes at top of page 13 do not seem to be about GRASP – they are about outcome measures used such as Chedoke and Fugl Meyer, with no real link or association with the GRASP program implementation. Confusion of purpose….

Page 13 – Synthesis of the data – It appeared odd to have this sub heading and summary of the CFIR factors presented here, and not in methods – suggest the description be reported earlier in methods – also the paragraph that starts ‘Participants found out about the intervention…..it is possible that there exists a hierarchy…equally, it is possible ..’ seems to be a discussion – move this to discussion section.

MAJOR ESSENTIAL REVISIONS – (i) review label for category ‘Knowledge Translation’ on page 7 - consider a label that is more specific to the study topic (ii) indicate how many or what proportion of the 20 participants held the view about poor quality movement (see top of page 9) (iii) Review use of the term ‘model’ for describing use of therapy /rehab assistants to help with delivery of GRASP. (iv) add content into background lit review about what the Canadian guidelines state re: GRASP (v) revise the term ‘collective action’ on page 11 and/or quotes selected for that category, and ‘reflexive monitoring on page 12.(vi) consider removing the content about Chedoke/Fugl Meyer or make link with GRASP more evident/choose other quotes. (vii) move discussion on page 13 to discussion section.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.

Table 2 (participants characteristics) = no internal horizontal lines. I suggest in
table 2 that an extra column be added (far left) showing sites A-H removing the need to repeat the site letter. I would also recommend reviewing the term ‘rehabilitation’ which include outpatients and community – I think the authors may be referring to ‘inpatient’ rehabilitation, and if so, this might be a better term to use.

Table 3 – column titled ‘Knowledge Translation’ – confused me – is this the process of KT or factors promoting KT or strategies used by participants? Clarify this by renaming the column.

MINOR ESSENTIAL REVISIONS: (i) Revise Table 2 – add column far left with letters A-H, and also consider changing he term in work setting ‘rehabilitation’ to ‘inpatient rehab’. Remove internal horizontal lines (also In Table 1) (ii) Table 3: Retitle column ‘Knowledge translation’

5. Are the discussion and conclusions well balanced and adequately supported by the data (pages 14-18)?

Discussion requires a major rewrite – currently the discussion rambles and there are no strong messages coming through to inform future research or practice. For example, the authors claim that this is the first study to have used complimentary implementation frameworks to explore KT of an interventions outside a trial –yet the paper does not compare/contrast the two frameworks – in fact, I kept wondering why two frameworks were needed – surely this made the analysis unnecessarily complicated? (which raises the question of how that complexity was managed during analysis and interpretation..?).

Another claim in the discussion is that this is a novel study because data collection was not retrospective – the authors suggest (on page 14) that studies should be building on findings instead of the predominance of implementation research that are “retrospective and not ongoing”. Yet later on, in the limitations (page 18) the authors acknowledge that their study was in fact retrospective, which I agree it was (The data ‘relied on the healthcare professionals’ ability to recall events from a few months to a couple of years prior to the interviews’).

Overall the discussion rambles, and needs more focus, and identification of a few key important findings and learnings about implementation of the GRASP program – which can then hopefully advance future implementation of GRASP.

For example, it seems that one area for future research is fidelity of the program. Do the authors have any quotes that suggest therapists were changing the GRASP program and/or diverging from the ‘core’ principles? This would seem to be a good topic for future observational audits and qualitative research, in addition to exploring the outcomes of patients treated at sites using GRASP, compared to the original RCT.

Another question that the study raised was: why didn’t non-adopters get interviewed, to explore why they rejected or declined to use GRASP?

Finally the paragraph on page 17 about outcome measures is a distraction and
does not discuss the KT or implementation of GRASP. I recommend that this focus be removed.

**MAJOR ESSENTIAL REVISION:** (j) Provide key messages/findings at the beginning of the discussion. (ii) If one of the aims of the paper is to compare and contrast the 2 theoretical frameworks that aim is not apparent in the study aims, nor is a comparison provided. (iii) Acknowledge that the interviews collected opinions and experiences of therapists retrospectively, and amend the discussion accordingly (iv) remove discussion about outcome measurement unless this can be more closely connected to implementation of GRASP (V) add a section about future research and practice implications

6. Are limitations of the work clearly stated? Limitations section should also address why non-adopters of GRASP were not included, and acknowledge that no discussion seems to have occurred about fidelity of the GRASP program.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished (in background and elsewhere)?

Yes, key references are provided, but background section (pages 3-4) requires some minor revision.

Paragraph 1 – unclear if the GRASP program is recommended in Canadian (or other) CPGs – suggest the authors state (quote) what is stated in the CPGs, and if there is a statement specific to use of GRASP or if recommendations are more general broader.

Personally, I have used and recommended the GRASP program because it is suitable for a broad range of stroke survivors including people with severe paresis. Perhaps emphasise that aspect of the program (compared to CIMT).

The statement that ‘widespread clinical implementation of CIMT remains limited [9]’, requires revision. There is not supporting evidence to back up that statement – ‘widespread’ means worldwide (Australia? UK? All of North America? Singapore?), and there is not evidence of implementation or otherwise at this point. There are a small number of studies which have involved audits of current practice across these countries, which is the type of ‘evidence’ required to substantiate statements about implementation and KT.

Also on page 3, the authors refer to the single RCT of GRASP – as the study has not yet been replicated (to my knowledge) this limitation should be acknowledged. It is unusual for practice to change, or a CPG recommendation to be made based on results from a single RCT.

Unclear why the authors have chosen to focus on GRASP and not mirror therapy, mental practice or treadmill training, other named and recommended interventions in CPGs.

What about exploring the non-users or the slow adopters – as well as the adopters?
MINOR ESSENTIAL REVISIONS: (i) state (quote) what is stated in the CPGs, and if there is a statement specific to use of GRASP or if recommendations are more general broader (ii) The statement that ‘widespread clinical implementation of CIMT remains limited [9]’, requires revision. There is not supporting evidence to back up that statement (iii) acknowledge that only one RCT /Level 2 study exists/has been published on the effect of GRASP

8. Do the title and abstract accurately convey what has been found? Yes

Title is too general and non-specific in my opinion. If I was searching for an implementation study with a focus on a stroke rehabilitation intervention or assessment, my keywords would locate the study. But there is no indication of the focus of the intervention, for example on motor training or upper limb rehabilitation. Clinicians searching for studies about implementation of GRASP won’t easily locate this paper by the title or abstract.

I suggest than just ‘EBP in stroke rehab: KT and implementation’ consider changing to something like: Implementation of the GRASP upper limb motor retraining program/intervention

Page 2 - In the abstract, more information is needed in ‘Methods’ about the use of theoretical frameworks – add a brief description of each framework.

Page 2 - Abstract again – how many sites participated (‘…20 rehab staff across X sites.’)?

Methods (parag 2) : Data ‘were’ (not was).

MINOR ESSENTIAL REVISIONS: Abstract requires revisions to (i) title (b) aim(s) and (c) more description about framework in methods as well as (d) how many sites participated in methods

9. Is the writing acceptable? Yes – writing flows well and referencing style is very good/well edited.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests