

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Telerehabilitation for lower extremity recovery post-stroke: A systematic review and meta-analysis protocol
AUTHORS	Park, Sarah; Tang, Ada; Pollock, Courtney; Sakakibara, Brodie

VERSION 1 – REVIEW

REVIEWER	Okamoto, Takatsugu Nishi Hiroshima Rehabil Hosp, department of rehabilitation
REVIEW RETURNED	06-Oct-2021

GENERAL COMMENTS	<p>Confidential Comments to the Associate Editor</p> <p>This is the review of the literature examining telerehabilitation interventions specific for lower extremity recovery post-stroke. This paper contains very important findings. I consider that this paper is worth publishing.</p> <p>Comments to the Author</p> <p>This is the excellent paper that contains many useful contents for the reader. My comments are below.</p> <ol style="list-style-type: none"> 1. Clarify the severity of stroke, and then match the severity or compare by severity. 2. Compare the effects of different types of interveners (e.g., therapists, family members, strangers). 3. Describe the details of "usual care" that is compared to tele-rehabilitation.
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REVIEWER	Hurtubise, Karen Universite de Sherbrooke Faculté de Médecine et des Sciences de la Santé, École de réadaptation
REVIEW RETURNED	11-Oct-2021

GENERAL COMMENTS	<p>Reviewer's Response:</p> <p>Thank you for the opportunity to review the manuscript, <i>Telerehabilitation for lower extremity recovery post-stroke: A systematic review and meta-analysis protocol</i>. The manuscript presents a detailed protocol of a review aimed to systematically identify and review the literature on telerehabilitation interventions aimed at lower extremity recovery post-stroke and evaluate their effectiveness.</p> <p>The manuscript is well-written, and mostly easy to read, and contains the major required components to perform a systematic</p>
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	<p>review. I do have a few questions and hope to provide a couple of comments, which I hope will help improve the manuscript.</p> <p>Minor Issues (if any):</p> <p>Strengths and limitation of this study:</p> <ul style="list-style-type: none"> This section highlights the strengths of the study, yet there are no limitations mentioned. What are some potential limitations to this protocol? <p>Introduction:</p> <ul style="list-style-type: none"> The authors have presented the stroke deficits and consequences using the terminology of the International Classification of Function. An example of what is meant by an activity limitation is presented (p. 5., line 88), yet similar detail is not provided for impairments and participation restrictions. Adding these examples would assist in better situating this protocol and its aims with those not as familiar with the ICF framework. On p. 6, line 97, I wonder if you can explain the differences between travelling distance and transportation issues. This may have impacted on whether access or attendance is used later in the sentence, as many patients with these issues report both access and attendance difficulties. Some word redundancy is present in the description of the purpose of this paper (i.e., p. 7, lines 121-123. Rewording and shortening some of these sentences are suggested. <p>Methods and Analysis:</p> <ul style="list-style-type: none"> Comparison or Control: Are there any exclusion criteria that will be applied? Outcome Measures: Although I recognize that the outcomes listed are not all inclusive, it remains that they target physical function and impairment, as well as activity limitation, but no reference to participation measures are included. Do you have one participation measure that could also be listed for completeness? Information Sources: I am wondering why the search was limited to the listed databases and why for example PEDro and/or Google Scholar may not have been included. My question stems for the following guidelines: Bramer, W. M., Rethlefsen, M. L., Kleijnen, J., & Franco, O. H. (2017). Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. <i>Systematic reviews</i>, 6(1), 1-1; Michaleff, Z. A., Costa, L. O., Moseley, A. M., Maher, C. G., Elkins, M. R., Herbert, R. D., & Sherrington, C. (2011). CENTRAL, PEDro, PubMed, and EMBASE are the most comprehensive databases indexing randomized controlled trials of physical therapy interventions. <i>Physical therapy</i>, 91(2), 190-197.
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	<ul style="list-style-type: none"> • Data Management & Selection Process: Has the multi-stage process for study selection been used in other systematic and meta-analysis reviews? If so, please provide the reference. Will the full sample of identified studies be screened and undergo abstract and full-text review by the two researchers independently, or will only a portion of the sample be reviewed? • Data Extraction: Although the data extraction form has been piloted by the lead author, will a validation process for this study be undertaken with the other authors and/or those performing the extraction in this study? • Risk of Bias: Some references seem to be missing in this section (e.g., p. 17, line 229 end of the sentence; p. 17, line 237, end of sentence, line 238, end of sentence). Please also review p. 18, lines 243-244 (i.e., reference for JBI Critical Appraisal Tool is missing along with the NIH Study quality Assessment). • Patient and Public Involvement: The sentence is not a complete one (p. 19, line 256). <p>Data Analysis:</p> <ul style="list-style-type: none"> • Descriptive Analysis: Can more details be provided about the TIDiER (e.g., number of items)? Who will perform this descriptive analysis/ review and how till it be performed (e.g., validation process)? Also, I wondered if this was appropriated titled as Descriptive Analysis, as I expected to see reference to descriptive statistics. I wonder whether it should be titled Study Quality Assessment and could be included with all the other procedures outlined under Risk Bias and perhaps the Quality of the Evidence section. • It may be helpful for the reader to separate the Analysis section into between group analyses and within group analyses • Subgroup analysis: p. 22, line 31, a couple of examples of the technologies used to deliver telerehabilitation for which subgroup analysis may be performed will be helpful. <p>Discussion:</p> <ul style="list-style-type: none"> • P. 24, 329-335. This section has incomplete sentences, and word redundancies not as evident in other sections. Please review. <p>Thank you again for the opportunity to review the manuscript.</p>
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VERSION 1 – AUTHOR RESPONSE

Review #1

This is the excellent paper that contains many useful contents for the reader. My comments are below.

1. Clarify the severity of stroke, and then match the severity or compare by severity.

Response: The stroke severities will be dichotomized into severe and mild. The subgroup analysis section has been clarified to include this dichotomization and examples of the scoring on the mRS (p. 14, lines 319-320).

2. Compare the effects of different types of interveners (e.g., therapists, family members, strangers).

Response: The different types of interveners will be included in the "Descriptive Summary" section (p. 12, line 265). If the data allows (n = 2), a subgroup analysis will be performed by the different interveners (p. 14, lines 321-322).

3. Describe the details of "usual care" that is compared to tele-rehabilitation.

Response: We have added in the Descriptive Summary section, that we will describe the comparison/control groups. (pp. 11-12, lines 264-265)

Reviewer #2

Strengths and limitation of this study:

Response: Thank you for this comment. The limitation that grey literature, theses, or protocols of ongoing studies will not be included has been added to the strengths and limitation section (p. 3, lines 73-74). Furthermore, limitations of our findings will be discussed in detail in the comprehensive systematic review.

Introduction:

- The authors have presented the stroke deficits and consequences using the terminology of the International Classification of Function. An example of what is meant by an activity limitation is presented (p. 5., line 88), yet similar detail is not provided for impairments and participation restrictions. Adding these examples would assist in better situating this protocol and its aims with those not as familiar with the ICF framework.

Response: Details have been added to further the description for impairments (p. 3, line 86) and participation restrictions (p. 4, line 88) to better situate this protocol with those who are unfamiliar with the ICF framework.

- On p. 6, line 97, I wonder if you can explain the differences between travelling distance and transportation issues. This may have impacted on whether access or attendance is used later in the sentence, as many patients with these issues report both access and attendance difficulties.

Response: The differences between travelling distance and transportation issues has been clarified by adding an example of travelling distance and transportation issue (p. 4, lines 97, 98). Travelling distance refers to the actual distance between the home of the patient and the location of the rehabilitation centre (e.g., in km) and transportation issues refer to challenges such as lack of transit. Therefore, the term attendance is used later in the sentence (p. 4, line 98).

- Some word redundancy is present in the description of the purpose of this paper (i.e., p. 7, lines 121-123. Rewording and shortening some of these sentences are suggested.

Response: Thank you for this comment. The sentences have been shortened and reworded as follows: "In this paper, we report on the protocol of a systematic review and meta-analysis that will:" (p. 5, lines 122-123).

Methods and Analysis:

- Comparison or Control: Are there any exclusion criteria that will be applied?

Response: No exclusion criteria will be applied for comparison or control. The different kinds of comparators/controls will be analyzed through a subgroup analysis if the critical number of studies ($n = 2$) is reached.

- Outcome Measures: Although I recognize that the outcomes listed are not all inclusive, it remains that they target physical function and impairment, as well as activity limitation, but no reference to participation measures are included. Do you have one participation measure that could also be listed for completeness?

Response: The Reintegration to Normal Living (RNL) Index has been listed as a participation measure (p. 8, lines 187-188). This measure has been used in Mayo et al (2015) when assessing an intervention aimed to enhance life participation post-stroke.

- Information Sources: I am wondering why the search was limited to the listed databases and why for example PEDro and/or Google Scholar may not have been included. My question stems from the following guidelines:
 - Bramer, W.M., Rethlefsen, M.L., Kleijnen, J. *et al.* Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. *Syst Rev* 6, 245 (2017). <https://doi.org/10.1186/s13643-017-0644-y>
 - Michaleff ZA, Costa LO, Moseley AM, et al. CENTRAL, PEDro, PubMed, and EMBASE are the most comprehensive databases indexing randomized controlled trials of physical therapy interventions. *Phys Ther*. 2011;91(2):190-197. <https://doi.org/10.2522/ptj.20100116>

Response: Thank you for your suggestion. Web of Science, Google Scholar, PEDro, and PubMed have been added to databases to search (p. 8, lines 191-192).

Data Management & Selection Process:

- Has the multi-stage process for study selection been used in other systematic and meta-analysis reviews? If so, please provide the reference. Will the full sample of identified studies be screened and undergo abstract and full-text review by the two researchers independently, or will only a portion of the sample be reviewed?

Response:

Yes, the multi-stage process has been used in other systematic and meta-analysis reviews. The reference has been added to p. 9, line 206.

Yes, the full sample of identified studies will be screened and undergo abstract and full-text review by the two researchers independently. This has been clarified in p. 9, lines 208, 210.

- Data Extraction: Although the data extraction form has been piloted by the lead author, will a validation process for this study be undertaken with the other authors and/or those performing the extraction in this study?

Response: The data extraction will be validated between the authors performing the extraction. The lead author will train a research assistant in the process of data extraction, and both will extract 3 studies to ensure consistency between authors. This has been clarified in p. 10, lines 222-224.

- Risk of Bias: Some references seem to be missing in this section (e.g., p. 17, line 229 end of the sentence; p. 17, line 237, end of sentence, line 238, end of sentence). Please also review p. 18, lines 243-244 (i.e., reference for JBI Critical Appraisal Tool is missing along with the NIH Study quality Assessment).

Response: Thank you for catching this error. References have been added to p. 10, line 234; p. 11, lines 244, 249, 250.

- Patient and Public Involvement: The sentence is not a complete one (p. 19, line 256).

Response: The sentence has been clarified to read "No patients were involved in the writing of this systematic review protocol. However, the results of this review will be disseminated to patients with stroke who have lower extremity impairments" on p. 15, lines 335-337.

Data Analysis:

- Descriptive Analysis: Can more details be provided about the TIDieR (e.g., number of items)? Who will perform this descriptive analysis/ review and how will it be performed (e.g., validation process)? Also, I wondered if this was appropriated titled as Descriptive Analysis, as I expected to see reference to descriptive statistics. I wonder whether it should be titled Study Quality Assessment and could be included with all the other procedures outlined under Risk Bias and perhaps the Quality of the Evidence section.

Response:

More details about the TIDieR and how it will be evaluated has been added to p. 12, lines 268-271.

The section previously titled “Descriptive Analysis” has been updated to read “Descriptive Summary” (p. 11, line 262). This section will include descriptive details such as the number of studies, sample sizes, and describe the studies included. Study quality assessments as a title typically refers to assessments such as risk of bias, however, these will be included as part of the descriptive summary. The Quality of the Evidence refers to the overarching evidence rather than by individual studies, therefore this section will also be kept separate from the “Descriptive Summary” section.

- It may be helpful for the reader to separate the Analysis section into between group analyses and within group analyses

Response: Thank you for the suggestion. We have clarified that the analyses in this section will be ‘between group’.

- Subgroup analysis: p. 22, line 31, a couple of examples of the technologies used to deliver telerehabilitation for which subgroup analysis may be performed will be helpful.

Response: Thank you for this suggestion. The subgroup analysis section has been updated to read “Finally, if data allow, we will perform subgroup analyses to examine differences in outcomes by technology used for the delivery of telerehabilitation (e.g., mobile device, virtual reality).” (p. 14, lines 322-323).

Discussion:

- P. 24, 329-335. This section has incomplete sentences, and word redundancies not as evident in other sections. Please review.

Response: We have reworded this section, as recommended (p. 15, lines 344-350).

VERSION 2 – REVIEW

REVIEWER	Hurtubise, Karen Universite de Sherbrooke Faculté de Médecine et des Sciences de la Santé, École de réadaptation
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REVIEW RETURNED	27-Dec-2021
GENERAL COMMENTS	<p>Congratulations on the revised version of this manuscript! I am grateful for the thoughtfulness and thoroughness of the responses provided to my questions by the authors, as well as the changes and additions made to the revised manuscript in response to the suggestions provided.</p> <p>A couple of minor suggestions:</p> <ol style="list-style-type: none"> 1. In the Discussion section, a reference seems to be missing on p. 15, line 345. 2. In the Ethics and Dissemination section, by what means will you be disseminating the results to patients with strokes (as per the patient & public involvement section)? The dissemination strategies outlined in the ethics and dissemination section tend to reach academic and at times, clinical audiences, but rarely patients. Other strategies should be considered. <p>Thank you for the opportunity and privilege of reviewing this interesting and timely manuscript.</p>

VERSION 2 – AUTHOR RESPONSE

Reviewer #2

A couple of minor suggestions:

1. In the Discussion section, a reference seems to be missing on p. 15, line 345.

Response: The references have been added to page 15, line 345.

2. In the Ethics and Dissemination section, by what means will you be disseminating the results to patients with strokes (as per the patient & public involvement section)? The dissemination strategies outlined in the ethics and dissemination section tend to reach academic and at times, clinical audiences, but rarely patients. Other strategies should be considered.

Response: Thank you for this comment. We have updated the Ethics and Dissemination section to outline specific outreach strategies that we believe will most effectively reach patients. This has been added to page 15, lines 355-356.