

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Effectiveness and feasibility of telerehabilitation in patients with COVID-19: A systematic review and meta-analysis
<b>AUTHORS</b>	Seid, Abubeker Alebachew; Birara, Setognal; Mohammed, Ahmed

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Linqi Xu Hasselt University
<b>REVIEW RETURNED</b>	18-May-2022

<b>GENERAL COMMENTS</b>	<p>This is a very interesting systematic review and meta-analysis which explore the effect of effectiveness and feasibility of telerehabilitation in patients with COVID-19. The systematic review itself appears to be well performed and presented. But the number of RCT is so small that we have to rethink the quality of the evidence. I suggest that maybe you could consider including non-RCT articles as well for a systematic review, which will increase the quality of your article. This is the first systematic review and meta-analysis to investigate both the effectiveness and feasibility of telerehabilitation on COVID-19 patients. You will also need more results to back up the feasibility and secondary outcomes. There is also some missing information that future readers may look for in this study.</p> <ol style="list-style-type: none"><li>1. In "Strengths and limitations of this study", "All steps of database searching, outcome data extraction, and methodological quality assessment were performed by two reviewers independently". It's the basic requirements and procedure of systematic review, it should not be "strength".</li><li>2. A minor error, in Figure 1, full text studies assessed for eligibility (n=62), and Full text studies excluded (n=59), why studies included for analysis is 4 not 3?</li><li>3. In inclusion criteria, it will be better if you also address the exclusion criteria. For example, protocol?</li></ol>
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<b>REVIEWER</b>	Nicola Saywell Auckland University of Technology
<b>REVIEW RETURNED</b>	06-Jun-2022

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review your work I think it represents an interesting addition to the field. I have added comments and suggestion on the PDF and welcome your response.</p> <p>The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.</p>
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<b>REVIEWER</b>	Hongyan Xu Augusta University
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<b>REVIEW RETURNED</b>	07-Aug-2022
<b>GENERAL COMMENTS</b>	<p>This is an interesting study of the effect of telerehabilitation on COVID-19 patients. I have some comments:</p> <ol style="list-style-type: none"> <li>1. The general statistical approach used for meta-analysis seems to be fine. However, the description is sketchy. The authors mentioned fixed-effect model and random-effect model. The variables in these models should be described, including which variable has fixed effect and which has random effect.</li> <li>2. The description of results in the Abstract should include information on the final models used (fixed-effect or random-effect model).</li> </ol>

### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1: Dr. Linqi Xu, Hasselt University

Comments to the Author:

This is a very interesting systematic review and meta-analysis which explore the effect of effectiveness and feasibility of telerehabilitation in patients with COVID-19. The systematic review itself appears to be well performed and presented. But the number of RCT is so small that we have to rethink the quality of the evidence. I suggest that maybe you could consider including non-RCT articles as well for a systematic review, which will increase the quality of your article. This is the first systematic review and meta-analysis to investigate both the effectiveness and feasibility of telerehabilitation on COVID-19 patients. You will also need more results to back up the feasibility and secondary outcomes. There is also some missing information that future readers may look for in this study.

**Response:** Thank you for the constructive suggestions and comments provided. The systematic review is aimed to explore the effectiveness and feasibility of telerehabilitation in COVID-19 patients by including RCTs. We are limited to RCTs to reach high quality results and not to deviate from the published pre-existing protocol. Future studies might be conducted by including both type of studies including studies published recently (not included in our review).

1. In “Strengths and limitations of this study”, “All steps of database searching, outcome data extraction, and methodological quality assessment were performed by two reviewers independently”. It’s the basic requirements and procedure of systematic review, it should not be “strength”.

**Response:** Thank you we have removed the sentence.

2. A minor error, in Figure 1, full text studies assessed for eligibility (n=62), and Full text studies excluded (n=59), why studies included for analysis is 4 not 3?

**Response:** Thank you we have corrected the type error in Figure 1. Full text studies excluded (n=58)

3. In inclusion criteria, it will be better if you also address the exclusion criteria. For example, protocol?

**Response:** We have added the following sentence (under inclusion criteria) that described the exclusion criteria applied in this review. “Studies that did not have enough statistical information to be extracted, descriptive reviews, guidelines, observational studies, systematic reviews, protocols, opinion, editorial, comments, and conference abstracts were excluded.”

Reviewer: 2: Dr. Nicola Saywell, Auckland University of Technology

Comments to the Author:

Thank you for the opportunity to review your work I think it represents an interesting addition to the field. I have added comments and suggestion on the PDF and welcome your response.

**Response:** Thank you for your constructive review and comments given. We have tried to address all the comments including language and grammar revisions. We have brought here the questions for a clear point by point response.

1. Grammar, spelling, use of abbreviations and related issues

**Response:** Thank you for the detailed critique. We have reviewed and modified the manuscript accordingly.

2. I feel as if the paragraph could be shortened to just outlining the key concepts you searched, COVID-19, Telerehabilitation and RCT. The outlining of so many terms seems to be unnecessary when you have a very clear search strategy in Table 1.

**Response:** We thank you again for the comment. We have re write and made changes as follows. "Multiple combinations of search terms determined by the Medical Subject Headings (MeSH), entry terms and keywords of COVID-19, telerehabilitation and efficacy and feasibility related words were used."

3. I would like to see the between group differences for the key finding in the results column. I would also like it acknowledged whether the outcome measurement was done immediately after the cessation of the intervention.

**Response:** The values for key outcome variables for each group was presented in table 3. Regarding timing of outcome measurement, no information is reported in the included original studies.

4. Long somewhat confusing sentence. (page 14 line 13-18)

**Response:** We have divided the long sentence and tried to make it easy to understand.

5. Unless un-cooperativeness is a direct quote from the reviewed papers, I think 'those who did not wish to continue with the intervention' would be better. Characterizing people who withdrew as uncooperative is pejorative and may be inaccurate.

**Response:** We agree with the view of the reviewer. But the word "un-cooperativeness" is reported in the primary papers (to refer those who did not wish to continue with the intervention) and we preferred to use it as it is.

Reviewer: 3: Dr. Hongyan Xu, Augusta University

Comments to the Author:

This is an interesting study of the effect of telerehabilitation on COVID-19 patients. I have some comments:

**Response:** Thank you for your comments.

1. The general statistical approach used for meta-analysis seems to be fine. However, the description is sketchy. The authors mentioned fixed-effect model and random-effect model. The variables in these models should be described, including which variable has fixed effect and which has random effect.

**Response:** Thank you for the issue. We have used fixed effect model when no significant heterogeneity is observed ( $I^2 < 0.5$  or  $P > 0.1$ ). In our study fixed effect model was used for all variables as no significant heterogeneity was observed. We have made changes in the forest plots as well.

2. The description of results in the Abstract should include information on the final models used (fixed-effect or random-effect model).

**Response:** Thank you. We have mentioned about the type of model used for the analysis of variables in the abstract section under **Data extraction and synthesis** as follows. "Fixed effect model was used for all variables as no significant heterogeneity was observed."

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Hongyan Xu Augusta University
<b>REVIEW RETURNED</b>	13-Sep-2022
<b>GENERAL COMMENTS</b>	This is a revision. The authors have addressed my previous concerns sufficient.