RAPID RESEARCH

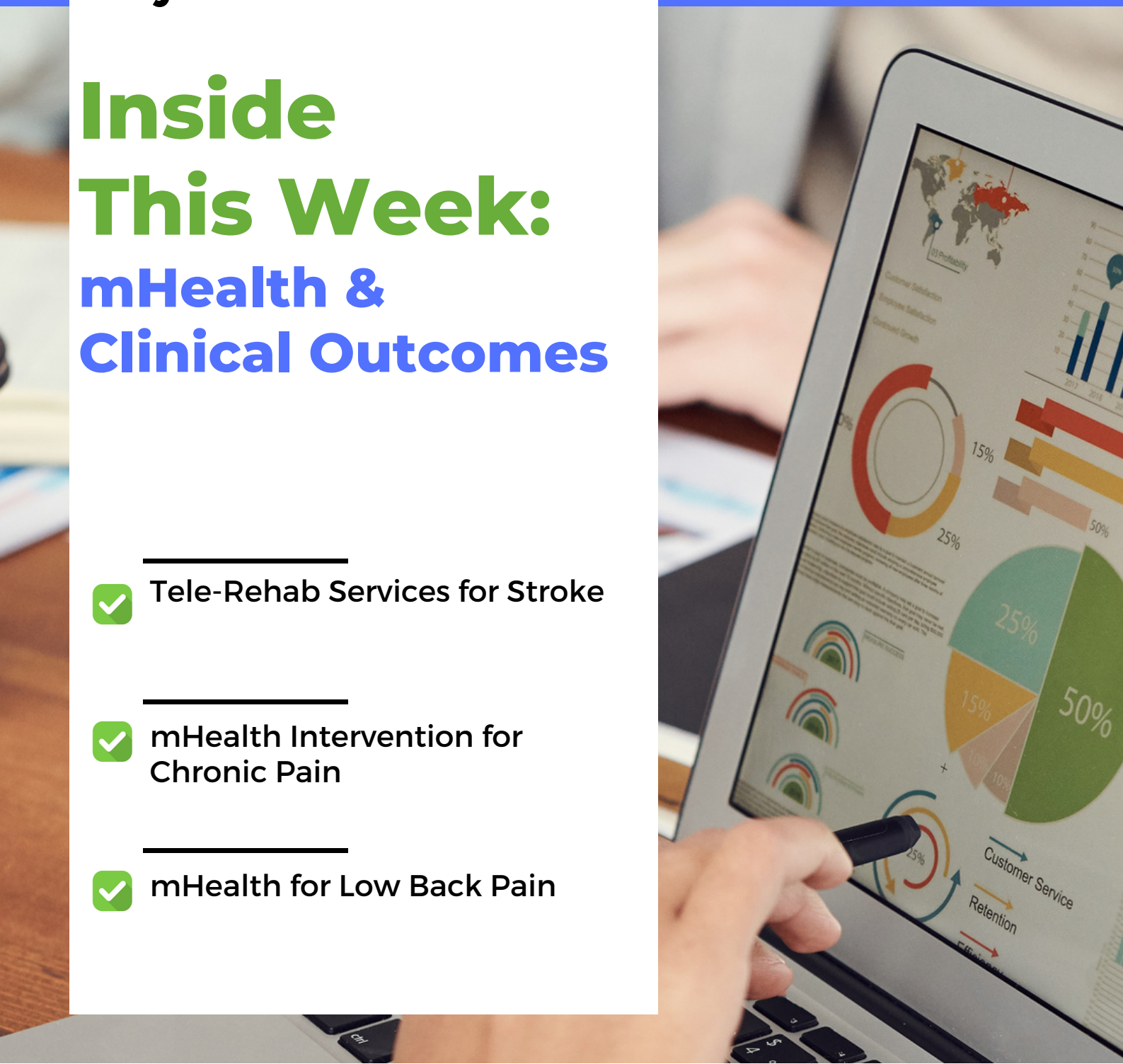
@physicaltherapyresearch

May 2023

Inside This Week:

mHealth & Clinical Outcomes

- Tele-Rehab Services for Stroke
- mHealth Intervention for Chronic Pain
- mHealth for Low Back Pain

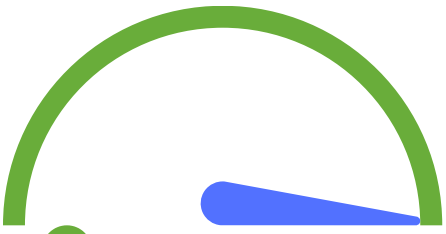


TELE-REHAB SERVICES FOR STROKE

MAY 2023

Click for Full Text (Laver et al. 2020)

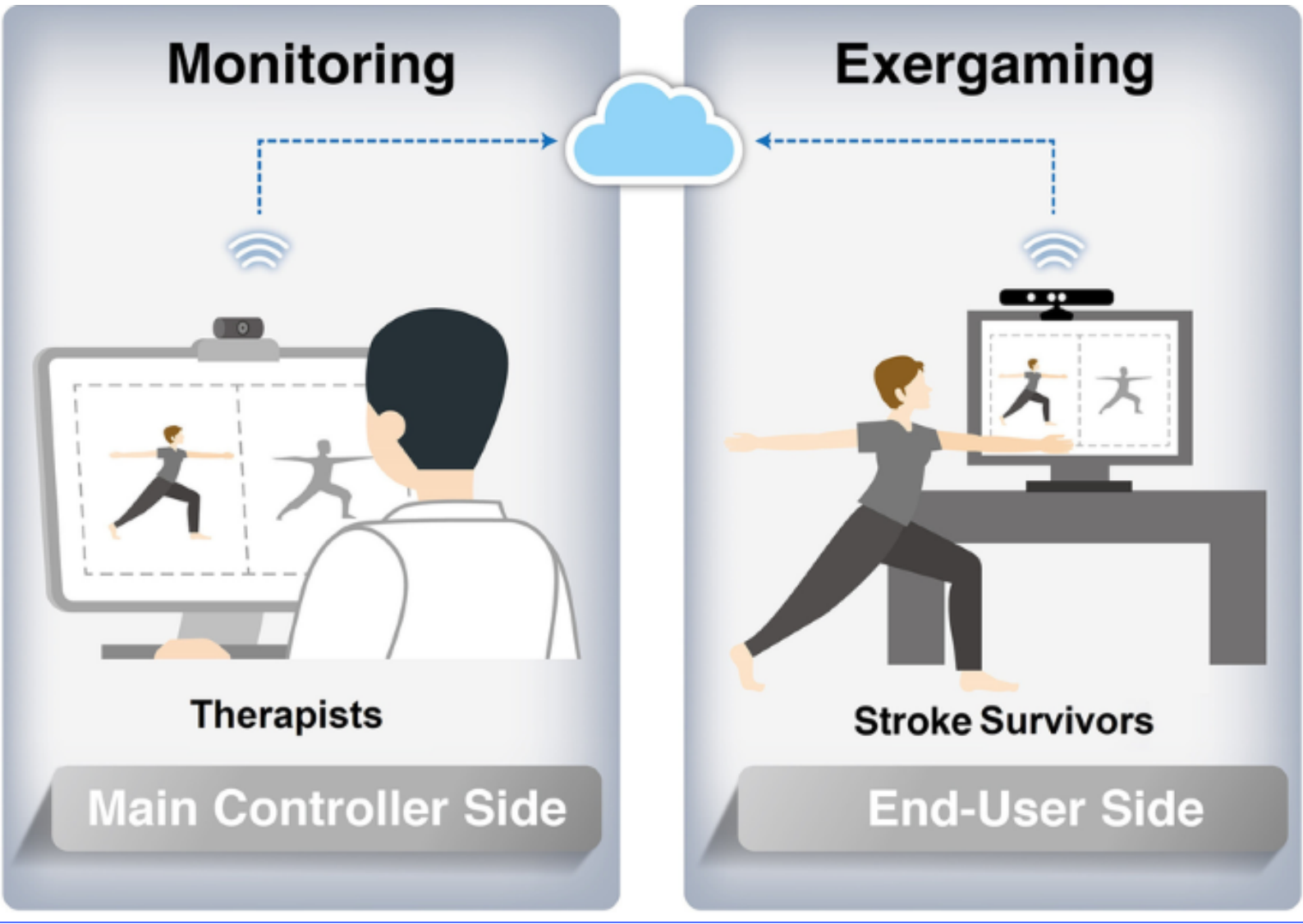
JBI 11/11 [100%]



Quality Check

*see appx

This systematic review determined whether the use of tele-rehab leads to improved ability to perform activities of daily living (ADLs) amongst stroke survivors when compared with in-person rehab vs no rehabilitation or usual care.



KEY FINDINGS

22 systematic reviews included; 1937 patients

Primary Outcomes (Moderate Quality Evidence):
No difference post-hospital discharge tele-rehab vs. usual care for ADLs.
No difference tele-rehab vs in-person PT for ADLs.

Secondary Outcomes (Low-Moderate Quality Evidence):
No difference in tele-rehab vs. in-person for balance outcomes.
No difference post-discharge support vs. usual care on health-related QOL.
No difference post-discharge tele-support vs. usual care for depressive symptoms.
No difference remote training vs. in-person for upper limb function.

*Evidence was insufficient to draw conclusions on the effects of tele-rehab on mobility or participant satisfaction with the intervention.

MAIN TAKEAWAYS

Overall for Tele-rehab vs in-person or no rehabilitation:
Low or moderate-level evidence suggests tele-rehab is, at least, as effective as in person rehabilitation.

Short-term post-hospital discharge tele-rehab programs have similar outcomes in reducing depressive symptoms, improving quality of life, or improving independence in ADLs when compared with usual care.

Tele-rehab may be less expensive to provide but, information was lacking about cost-effectiveness.

MHEALTH INTERVENTION FOR CHRONIC PAIN

MAY 2023

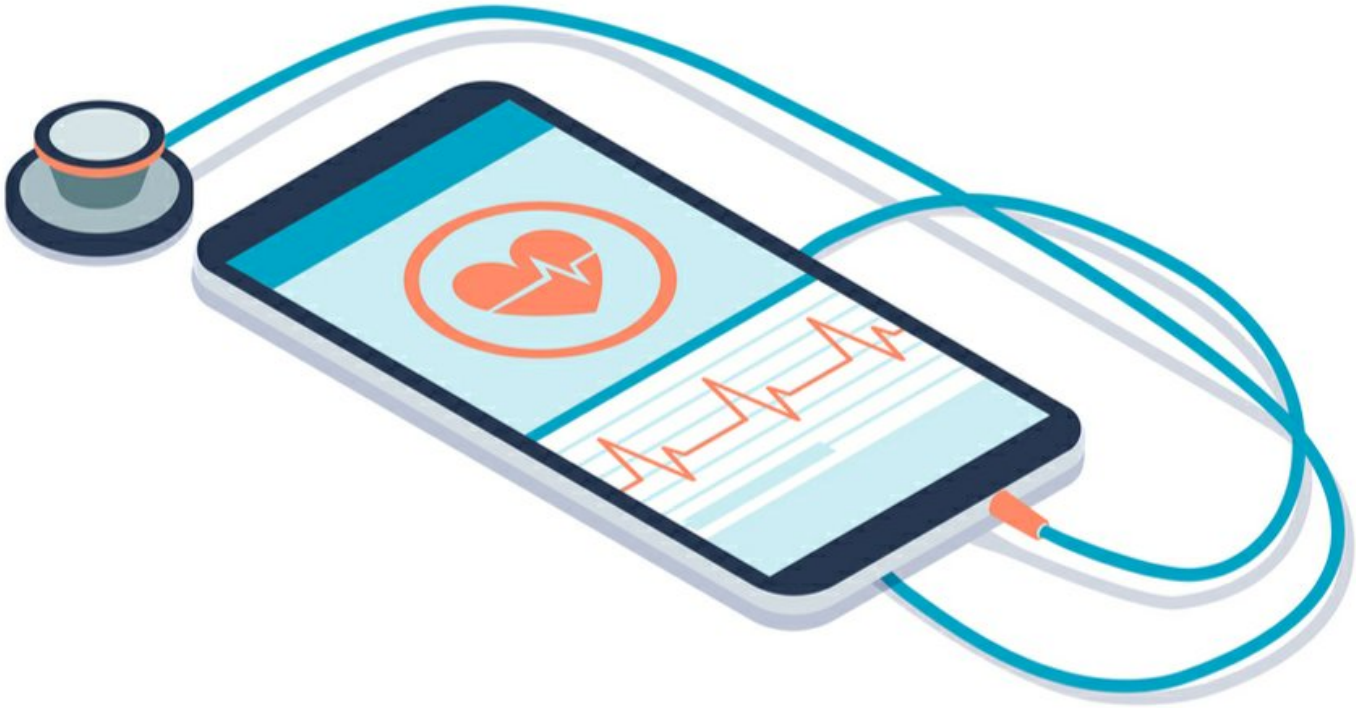
Click for Full Text (Lucena et al. 2023)

JBI 10/11 [90%]

Quality Check

*see appx

This systematic review analyzed the effects of mHealth interventions on Chronic Pain (CP) management, based on pain intensity, quality of life (QoL), and functional disability assessment, vs. conventional treatment or nonintervention.



KEY FINDINGS

22 studies were included; 2641 patients

Chronic Conditions Included:

Chronic low back pain (CLBP), Musculoskeletal pain (CMSP), Neck pain (CNP), Unspecified CP (UCP), Pelvic pain (CPP), Fibromyalgia (FM), Interstitial cystitis/bladder pain syndrome (IC/BPS), Irritable bowel syndrome (IBS), and Osteoarthritis (OA).

A Total of 23 mHealth Systems Used, Beneficial Effects Included:

Reduced pain intensity (CNP, FM, IC/BPS, and OA).
Improved QoL (CLBP, CNP, IBS, and OA).
Improved Functional disability (CLBP, CMSP, CNP, and OA).

82% of included studies reported medium methodological quality and were considered as highly recommendable.

MAIN TAKEAWAYS

Beneficial effects were found on pain intensity, QoL, and functional disability.

mHealth systems showed positive effects on pain intensity in CNP, FM, IC/BPS, and OA; on the QoL in CLBP, CNP, IBS, and OA; and on functional disability in CLBP, CMSP, CNP, and OA.

No statistically significant changes for any of the study outcomes were observed in patients with unspecific CP and CPP.

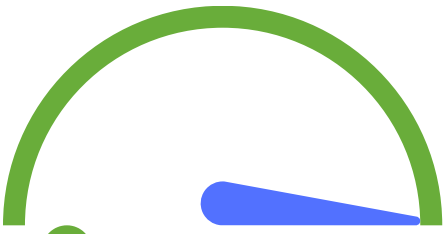
mHealth systems seem to be a promising alternative for the management of patients with CP through a biopsychosocial framework.

MHEALTH FOR LOW BACK PAIN

MAY 2023

Click for Full Text (Chen et al. 2021)

JBI 11/11 [100%]



Quality Check

*see appx

This systematic review evaluated the efficacy of mHealth interventions in patients with low back pain compared to usual care.

KEY FINDINGS

9 studies included; 792 participants

mHealth Combined with Usual Care Showed:
Better reduction in pain intensity (VAS).

Larger reduction in disability (Rolland-Morris Disability Questionnaire).

mHealth vs. Usual Care:
Significantly reduced pain intensity and disability scores.

Without the use of telephone calls, mHealth had no obvious advantage over usual care in improving pain intensity and the disability score.

The group that received a more sensitive feedback intervention showed a significantly reduced disability score.

MAIN TAKEAWAYS

Simultaneous interventions of mHealth and usual care, compared with usual care alone, are significantly better for reducing pain intensity and disability in patients with low back pain.

The use of telephone calls or more sensitive feedback interventions may further increase the positive effects of these simultaneous interventions on the disability of patients with low back pain.

The wider use of mHealth may contribute significantly to the population of patients with low back pain.

GIVE US YOUR FEEDBACK!

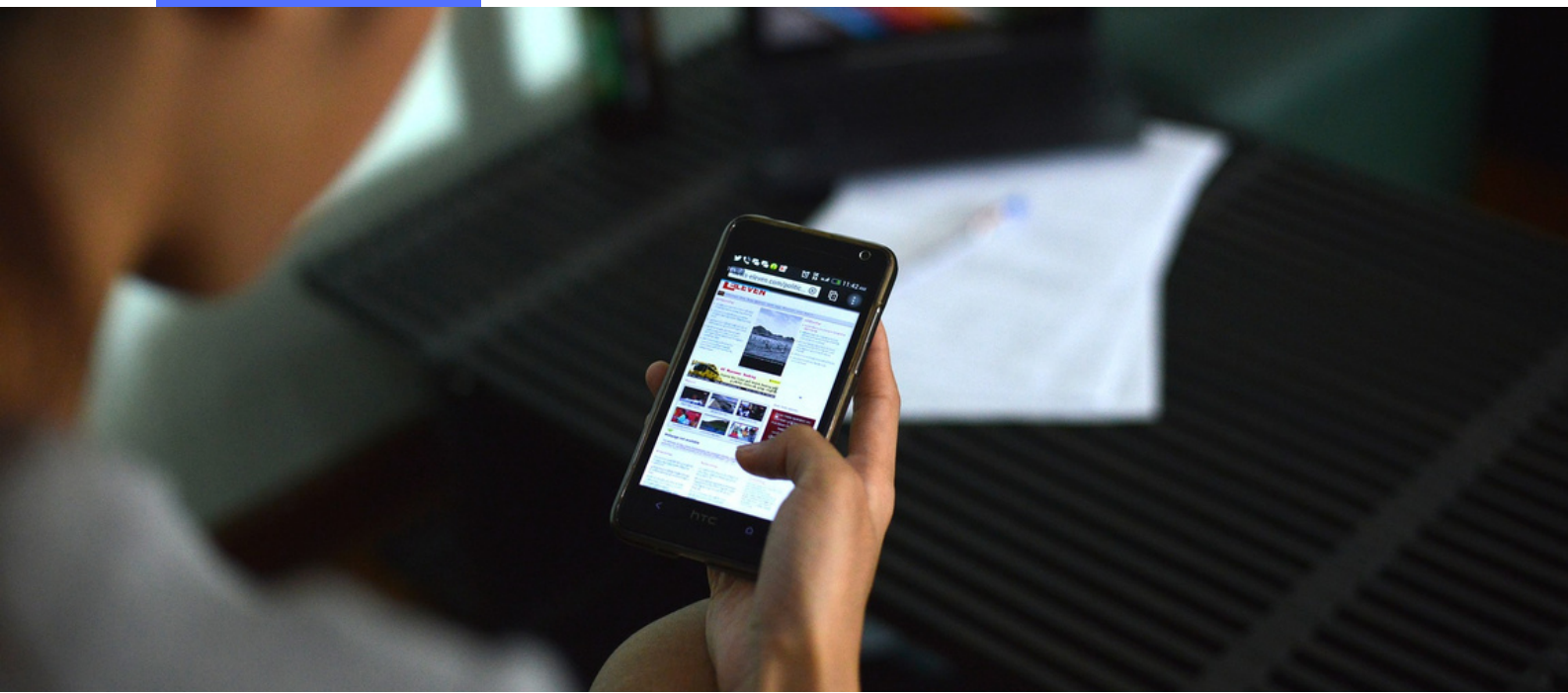
MEMBERS

We are on a mission to make research more accessible, easier to interpret, and quicker to implement.

Help us by giving 1 minute of your time to leave feedback for us.

We would greatly appreciate any feedback you have, as it helps us continually improve!

Leave Review



JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Laver et al. Year: 2020

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	+	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	+	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	+	☐	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 11/11 (100%)

LIMITATIONS:

Many studies involved small sample sizes.

Selective outcome reporting was apparent in several studies.

Method of outcome selection could be open to selection bias.

JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Moreno-Ligero et al. Year: 2023

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	+	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	+	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	☐	X	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 10/11 (90%)

LIMITATIONS:

Heterogeneity among Chronic Pain conditions and patient characteristics makes generalization of the findings not suitable for a specific CP condition.

Patients in most studies were aware of the interventions, which cold lead to performance bias.

JBI Critical Appraisal Checklist for systematic reviews and research syntheses

Author: Chen et al. Year: 2021

		Yes	No	Unclear	Not applicable
1.	Is the review question clearly and explicitly stated?	+	☐	☐	☐
2.	Were the inclusion criteria appropriate for the review question?	+	☐	☐	☐
3.	Was the search strategy appropriate?	+	☐	☐	☐
4.	Were the sources and resources used to search for studies adequate?	+	☐	☐	☐
5.	Were the criteria for appraising studies appropriate?	+	☐	☐	☐
6.	Was critical appraisal conducted by two or more reviewers independently?	+	☐	☐	☐
7.	Were there methods to minimize errors in data extraction?	+	☐	☐	☐
8.	Were the methods used to combine studies appropriate?	+	☐	☐	☐
9.	Was the likelihood of publication bias assessed?	+	☐	☐	☐
10.	Were recommendations for policy and/or practice supported by the reported data?	+	☐	☐	☐
11.	Were the specific directives for new research appropriate?	+	☐	☐	☐

Overall appraisal: 11/11 (100%)

LIMITATIONS:

mHealth may have specific effects that vary by the type of low back pain, not adjusted for in the study.

Unable to perform a subgroup analysis according to the type of back pain.