VII Congreso Chileno
de Salud Pública
IX Congreso Chileno
de Epidemiología

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UNIVERSIDAD DE LA FRONTERA
SEDE 2023

IMPACTO DEL SOLAPAMIENTO DE ESTUDIOS PRIMARIOS EN LA CONDUCCIÓN DE META-META-ANÁLISIS (META-ANÁLISIS DE META-ANÁLISIS)

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Introducción

Revisión sistemática ≠ **Overview**

RCTs	Mitchell 1993	Henry 1994	Smallwood 2001	Holmes 2002	Gray 2002	Bowes 2002	Ballard 2002	Akhondzadeh 2003	Lin 2007	Burns 2011	Cameron 2011	OConnor 2013	Fu 2013
Review 1 (2008)													
Review 2 (2012)													
Review 3 (2014)													

Lunny et al. BMC Medical Research Methodology (2021).

International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY PROTOCOL

To cite: Gutierrez-Arias et al. Strategies used to manage overlap of primary study data by exercise-related overviews authors. Protocol for a systematic methodological review. Inplasy protocol 202250161. doi: 10.37766/inplasy2022.5.0161

Strategies used to manage overlap of primary study data by exercise-related overviews authors. Protocol for a systematic methodological review

Gutierrez-Arias, R[1]; Pieper, D[2]; Lunny, C[3]; Torres Aguilera-Eguía, R[5]; Seron, P[6].

Open access Protocol

BMJ Open

Strategies used to manage overlap of primary study data by exercise-related overviews: protocol for a systematic methodological review

Ruvistay Gutierrez-Arias ,[1,2] Dawid Pieper,[3,4] Carole Lunny ,[5] Rodrigo Torres-Castro,[6] Raúl Aguilera-Eguía ,[7] Pamela Seron [8]

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ABSTRACT

Introduction One of the most conflicting methodological issues when conducting an overview is the overlap of primary studies across systematic reviews (SRs). Overlap in the pooled effect estimates across SRs may lead to overly precise effect estimates in the overview. SRs that focus on exercise-related interventions are often included in overviews aimed at grouping and determining the effectiveness of various interventions for managing specific health conditions. The aim of this systematic

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This methodological review will use a systematic approach to describe the strategies used to manage the overlap of primary studies in exercise-related overviews.

⇒ This review will conduct a sensitive search of MEDLINE (Ovid), Embase (Ovid), The Cochrane Database of Systematic Reviews (Cochrane Library), Epistemonikos databases and registers of evidence

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https://www.qub.ac.uk/sites/TheNorthernIrelandNetworkforTrialsMethodologyResearch/SWATSWARInformation/Repositories/SWARStore/

REVIEW ARTICLE

Pain relief by movement representation strategies: An umbrella and mapping review with meta-meta-analysis of motor imagery, action observation and mirror therapy

JOURNAL ARTICLE

Effects of Neural Mobilization on Pain Intensity, Disability, and Mechanosensitivity: An Umbrella Review With Meta–Meta-Analysis

Get access >

Review article

Effectiveness of motor imagery and action observation on functional variables: An umbrella and mapping review with meta-meta-analysis

Meta-Analysis of Meta-Analyses of Anterior Cruciate Ligament Injury Reduction Training Programs

Materiales y Métodos

Diseño del estudio

- Análisis secundario de un estudio de meta-investigación (meta-research study).

Análisis

- Se incluyó overviews de intervenciones relacionadas con el ejercicio en que los autores realizaron MMA.

- Análisis descriptivo.

- Cálculo de CCA.

- Realización de MMA ajustados por solapamiento.

- JASP software.

Columns

Rows	Review 1	Review 2	Review 3	…
Primary publication 1	x			
Primary publication 2	x		x	
Primary publication 3	x	x	x	
Primary publication 4		x		
Primary publication 5		x	x	
…				

Primary publication 2 is included in review 1 and review 3, but not in review 2

$$CA\ (covered\ area) = \frac{N}{r\,c}$$

$$CCA\ (Corrected\ CA) = \frac{N-r}{r\,c-r}$$

where N is the number of included publications (including double counting) in evidence synthesis (this is the sum of the ticked boxes in the citation matrix); where r is the number of rows (number of index publications) and c is the number of columns (number of reviews).

Table 1. Interpretation of CCA

CCA	Overlap
0–5	Slight
6–10	Moderate
11–15	High
>15	Very high

Abbreviation: CCA, corrected covered area.

Received: 23 April 2021 | Revised: 3 February 2022 | Accepted: 26 February 2022

DOI: 10.1002/jrsm.1557

Research Synthesis Methods WILEY

SOFTWARE FOCUS

Graphical Representation of Overlap for OVErviews: GROOVE tool

Javier Pérez-Bracchiglione[1,2,3] | Nicolás Meza[1] | Shrikant I. Bangdiwala[4] | Ena Niño de Guzmán[2] | Gerard Urrútia[2,5] | Xavier Bonfill[2,5] | Eva Madrid[1]

Pieper et al. Journal of Clinical Epidemiology (2014).
Pérez-Bracchiglione et al. Resarch Synthesis Methods (2022).

Resultados

Con solapamiento

Publicadas entre 2018 y 2022

6
Overviews

19
MMA

Min 2 – Máx 8 RS

Mediana de 4 RS (RIQ 2,5-5)

381
estudios primarios

Min 7 – Máx 53

Mediana de 15 (RIQ 9-27)

2 OR
17 SMD

6 MMA sobre dolor

7 MMA sobre funcionalidad

1 MMA sobre variable sensorial

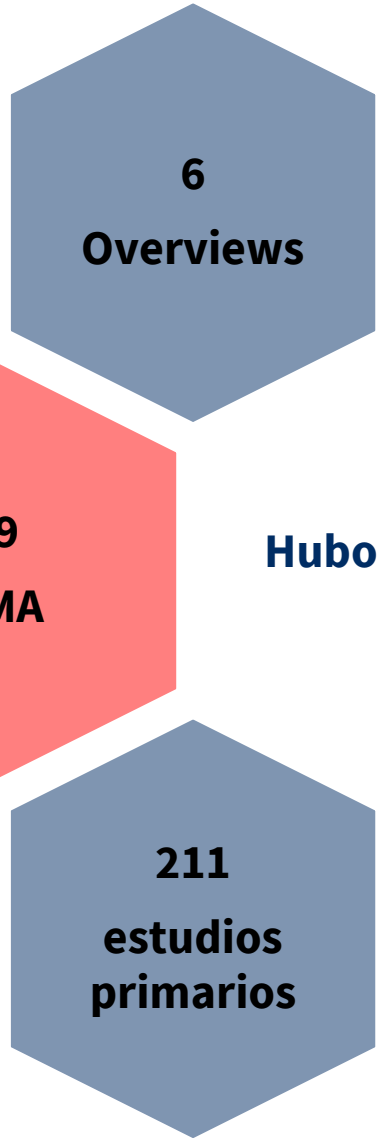
1 MMA sobre calidad de vida

2 MMA sobre el riesgo de lesión

2 MMA sobre el fitness cardiorrespiratorio

Sin solapamiento

Publicadas entre 2018 y 2022



Min 1 – Máx 6 RS

Mediana de 2 RS (RIQ 2-3)

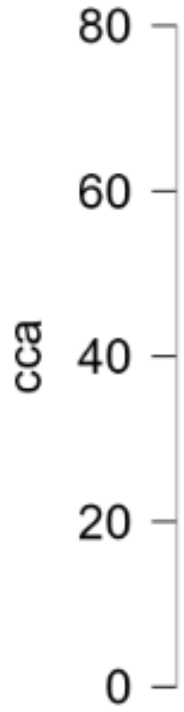
Hubo una mediana de variación de -33% (RIQ 0 a -45)

Min 4 – Máx 29

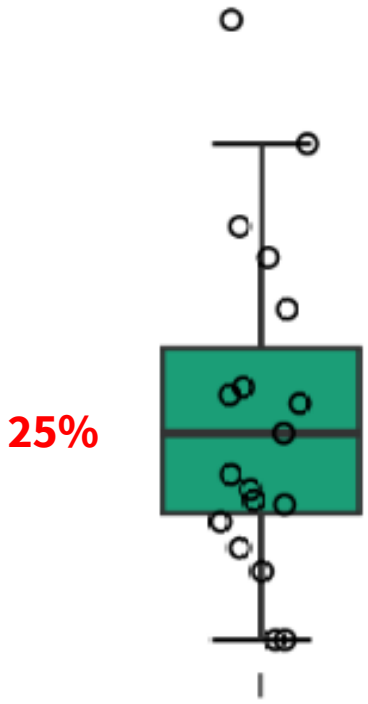
Mediana de 9 (RIQ 7-13)

Hubo una mediana de variación de -33,33% (RIQ -28,57 a -52,09)

CCA



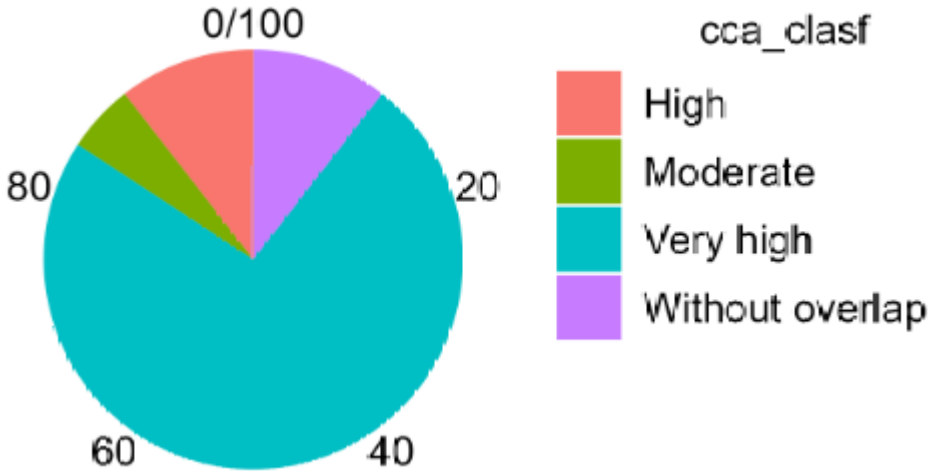
19 MMA



35,28%

25%

15,33%



Variación del efecto

Amplitud IC 95% sin solapamiento – Amplitud IC 95% con solapamiento

0,53
(SD 0,98)

Sin solapamiento

12 MMA con estimaciones del efecto menos precisas

Efecto → No Efecto
4 MMA

Conclusión

- El solapamiento de estudios primarios puede afectar la precisión del efecto calculado mediante la estrategia de meta-meta-análisis, pudiendo incluso provocar que una intervención sea estadísticamente significativa cuando en realidad no lo es.
- ¿Los MMA son una estrategia adecuada para resumir/agrupar los resultados de las RS incluidas en una overview?
- ¿Existen algunos casos especiales en donde la realización de MMA podría ser una estrategia eficiente?
- ¿Podría ser el grado de solapamiento un indicador útil para evaluar la validez de realizar MMA?

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