(THE TRUTH ABOUT) GAIT RECOVERY IN PATIENTS WITH CHRONIC STROKE: A SYSTEMATIC REVIEW.

ESOC 2024 10TH ANNIVERSARY THE VOICE OF STROKE IN EUROPE

10th European Stroke Organisation Conference

15–17 May 2024, Basel, Switzerland

CEN CENTRO EUROPEO DE NEUROCIENCIAS

P. FRAGOSO-ESPINOSA [1], J. ALEGRE-AYALA [1], J. LÓPEZ-SÁNCHEZ [1], B. PERALTA-WIELAND [1] and D. VILLALOBOS-TORNERO[2,3,4]

1 European Neuroscience Center, Madrid, Spain.

2 Department of Experimental Psychology, School of Psychology. Complutense University, Madrid, Spain.

3 Center for Cognitive and Computational Neuroscience. Complutense University, Madrid, Spain.

4 Institute of Knowledge Technology. Complutense University, Madrid, Spain.

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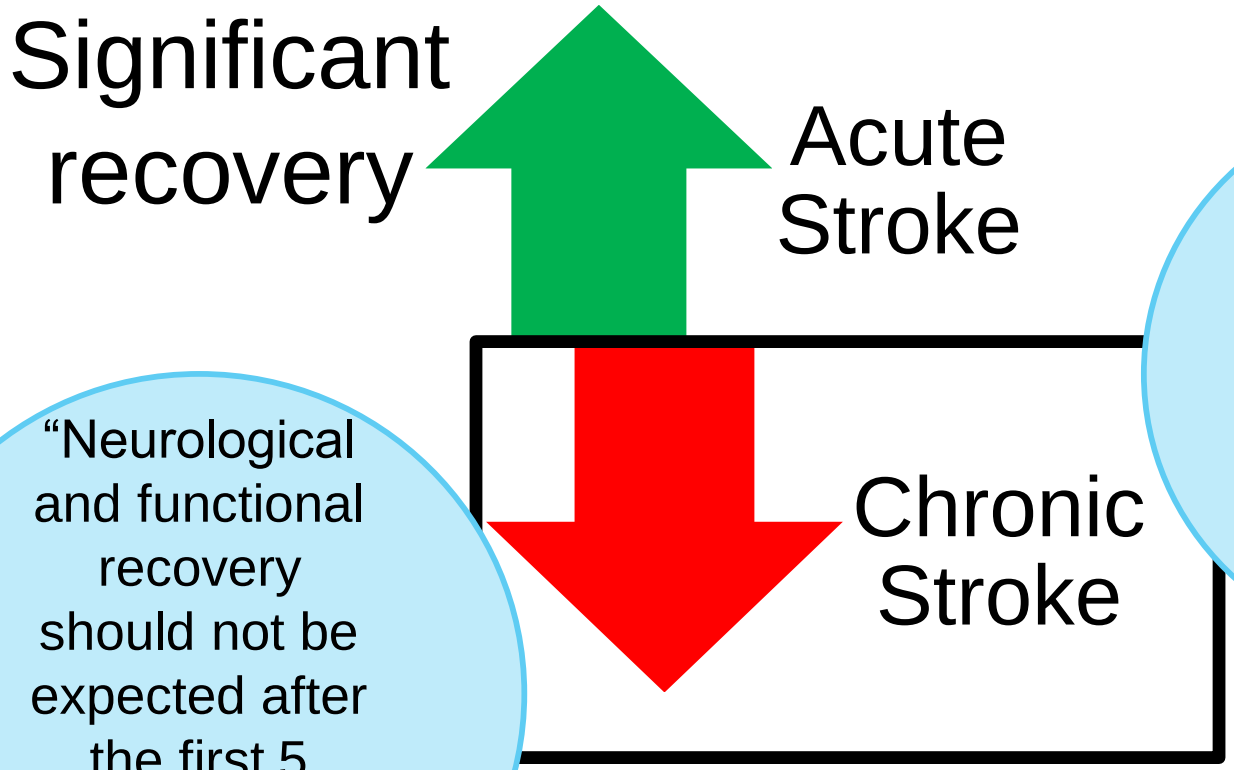
1. Introduction



"With treatment some improvements can be achieved" (Grefkes & Fink, 2020).

"Neurological and functional recovery should not be expected after the first 5 months" (Jørgensen et al., 1995)

1. Introduction

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STUDY AIM

The initial aim was to explore recent literature performed in this field and analyze if motor and functional recovery is possible in patients with a chronic stroke.

1. Introduction

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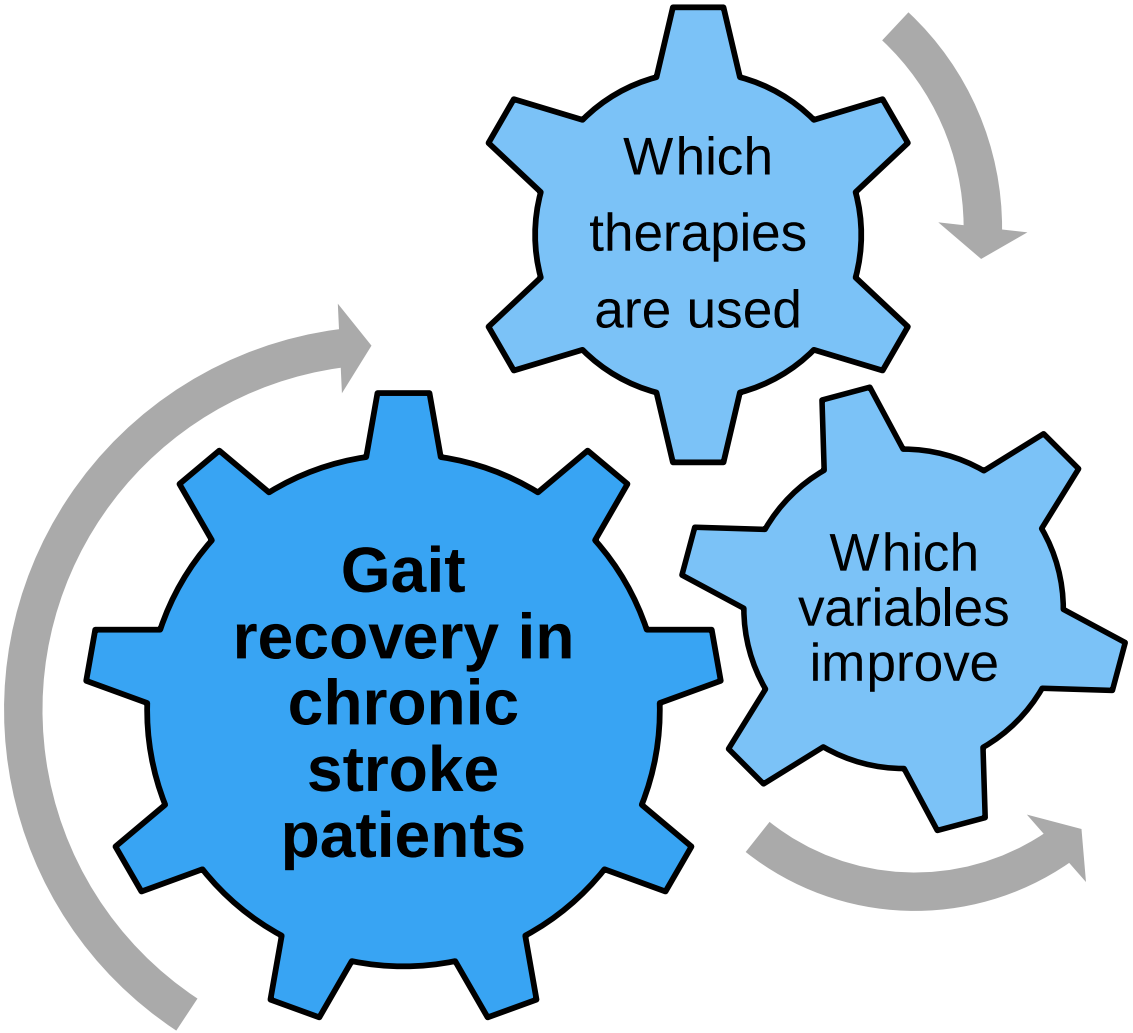
STUDY AIM

Considering the huge amount of literature

This Systematic Review explored:



2. Methods

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LITERATURE SEARCH

May 2022 & October 2023.

Scopus, Medline, Cochrane Library and Web of Science.

“Chronic stroke” OR “chronic cerebrovascular accident” AND “recovery” OR “prognosis” OR “outcome” OR “improve” OR “rehabilitation”

2. Methods

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ELIGIBILITY CRITERIA

-No restricted date of publication.

- Chronic stroke.

- Two motor or functional assessment.

- All kind of motor and functional recovery

- Studies involved in any kind of therapeutic treatment (pharmacological, motor…)

- Randomized control trials, randomized crossover trials or other randomized designed considered appropriated

-Articles focus on gait recovery.

- Other languages than English or Spanish.

- Patients with previous neurological pathologies.

- Patients with more than one ictus.

- Studies than includes no adult patients (< 18 years).

- Studies focus on cognitive or other process performance.

2. Methods

ELIGIBILITY CRITERIA

Eligibility assessment was conducted independently by two different reviewers (in different blocks of articles).

Disagreements between the two reviewers were resolved via discussion and with the inclusion of a third reviewer (DV).

2. Methods

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QUALITY ASSESSMENT

CRITICAL REVIEW FORM	• Quality assessment: Critical Review Form for quantitative studies .
OCEBM	• Evidence level: Center for evidence-based medicine, Oxford.
PRISMA	• Preferred Reporting Items for Systematic Reviews and Meta-Analysis statement.

3. Results

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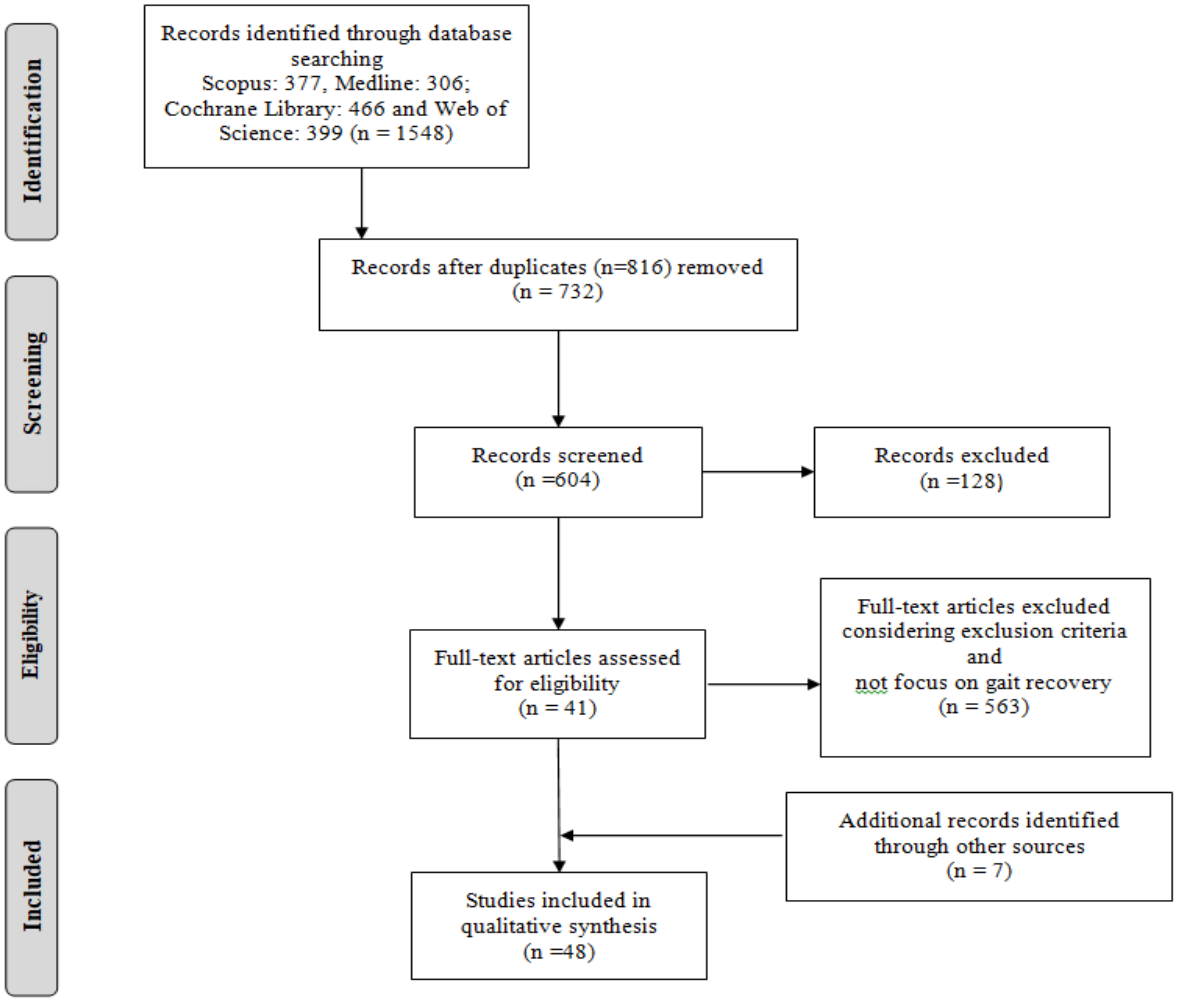
SEARCH RESULTS



3. Results

SEARCH RESULTS

ESCALA OCEBM: Center for evidence-based medicine, Oxford.

Study type	# Studies	Level of recommendation	Evidence´s level
RCT	40	A	1b
Case control study	1	B	2b
Pre-post studies	4	B	3a
Case series studies	2	C	4
Quasi-experimental study	1	C	4

3. Results

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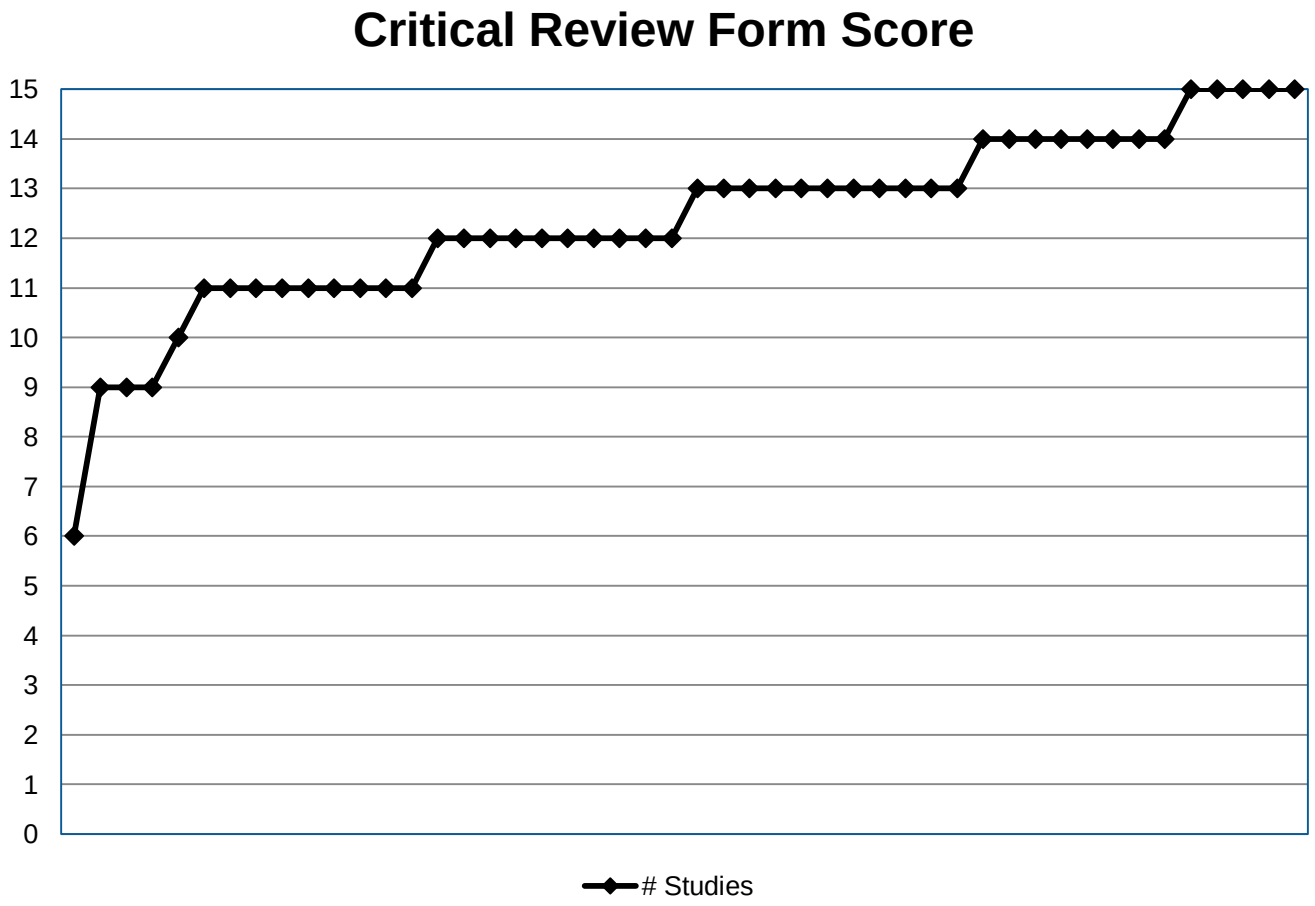
SEARCH RESULTS



3. Results

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SEARCH RESULTS

Studies Sociodemographic and Intervention Characteristics.

	Mean (SD)	Min-Max	Median (Q1-Q3)	Total
n	34.34 (25)	3-133	27(19.75-37)	1600
Age	58.8 (7.4)	33.7-73.5	59 (55.1-63.1)	
Stroke Onset (months)	40.33 (30.06)	6.43-138	33.8 (16.6-56.2)	
Duration (hours)	21 (18.4)	1.33-88.5	15 (10-26)	
Session duration (minutes)	52.9 (39.6)	10-210	42.5 (30-60)	
Freq (d/w)	3.75 (1.35)	1-7	3 (3-5)	
Weeks	7 (5.02)	2-27	6 (4-8)	
Total sessions	23.41 (15.51)	1-72	20 (12-29.5)	

3. Results

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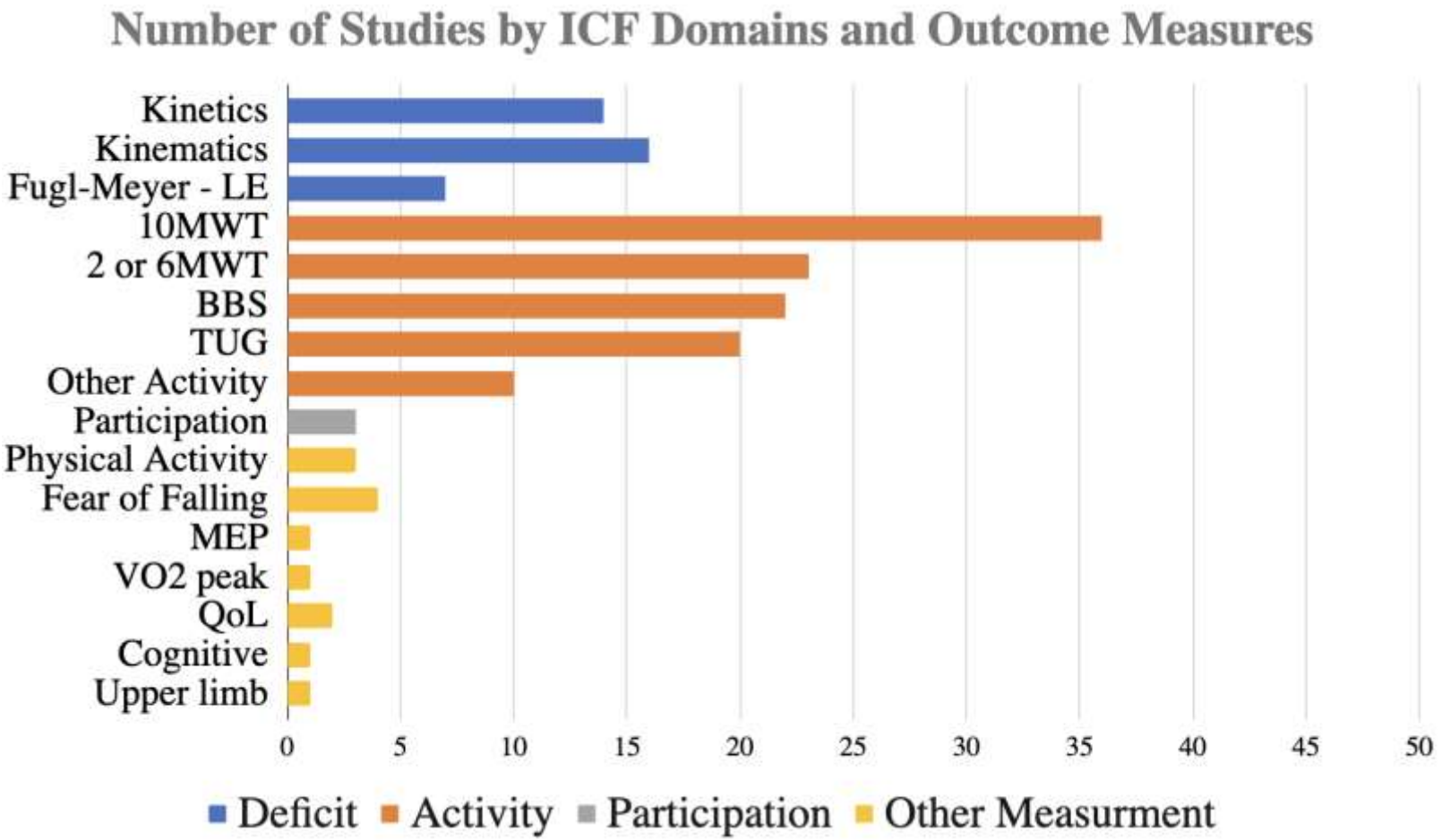
SEARCH RESULTS



3. Results

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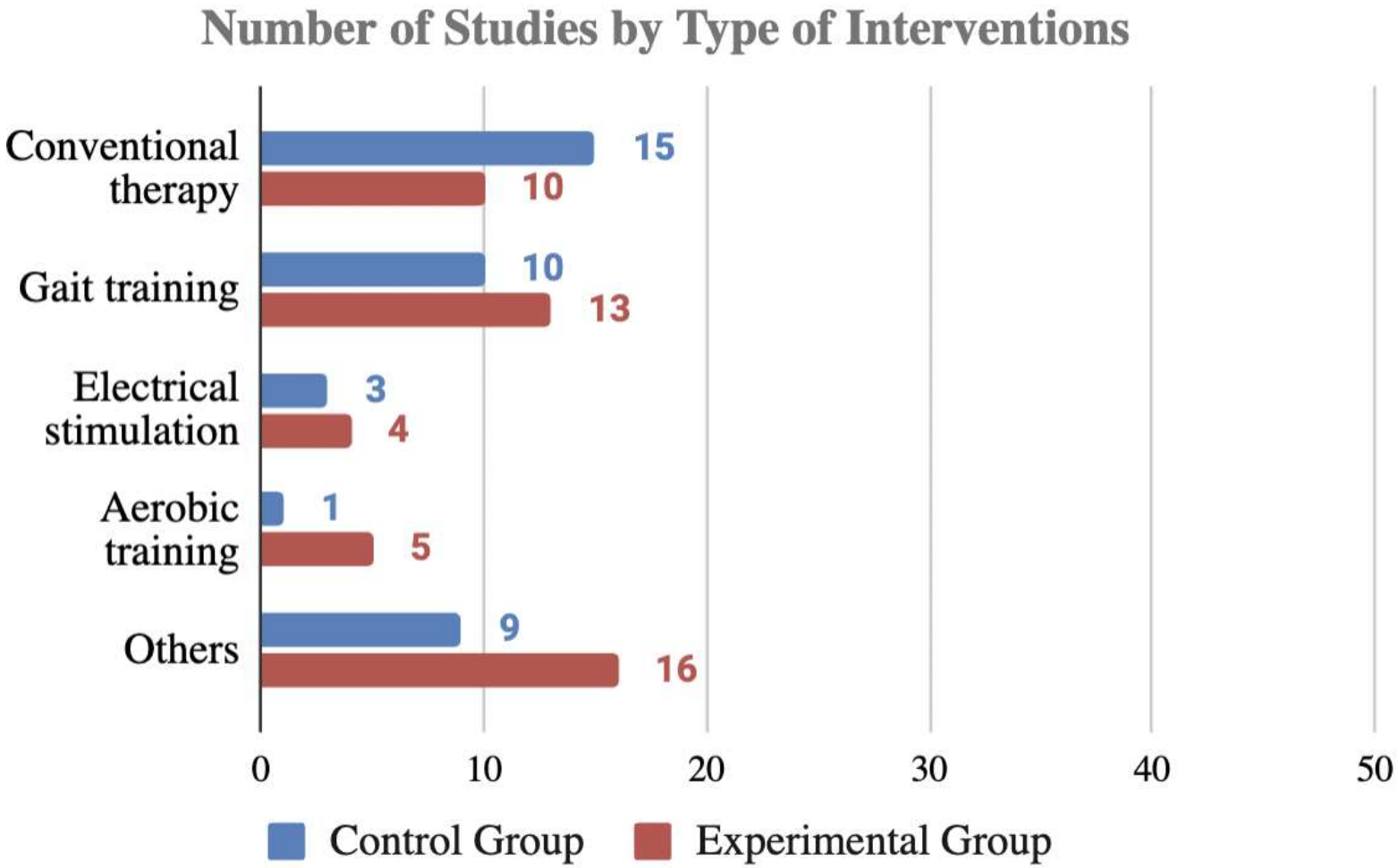
SEARCH RESULTS



3. Results

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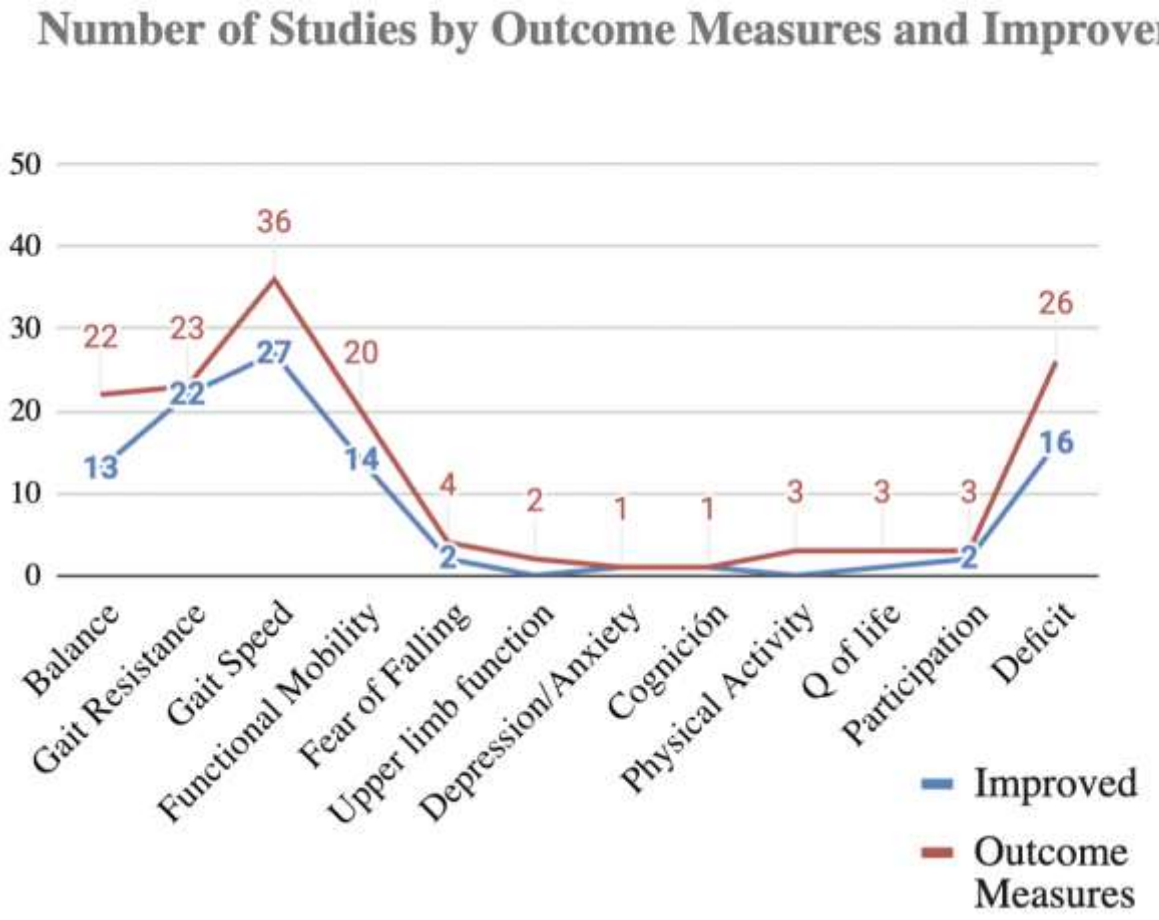
SEARCH RESULTS



4. Discussion

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This systematic review provides…

- Overview and analysis of the gait recovery in patients with chronic stroke
- Improvements of some stroke-induced deficits can even be achieved in these populations.
- A summary of the most frequent assessment tools.
- Most common interventions performed with chronic stroke patients.
- Choose or design appropriate gait rehabilitation programmes for this population

4. Discussion

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KEY ISSUES: Dimensions

- Disproportion in ICF dimensions: Focus on body structures and activity rather than participation.

- No cognitive-behavioural strategies were used for walking ability → Limitation on transfer learning.

- Positive intervention´s effects were found BUT clinical impact may be limited due to MCID or MDC.

4. Discussion

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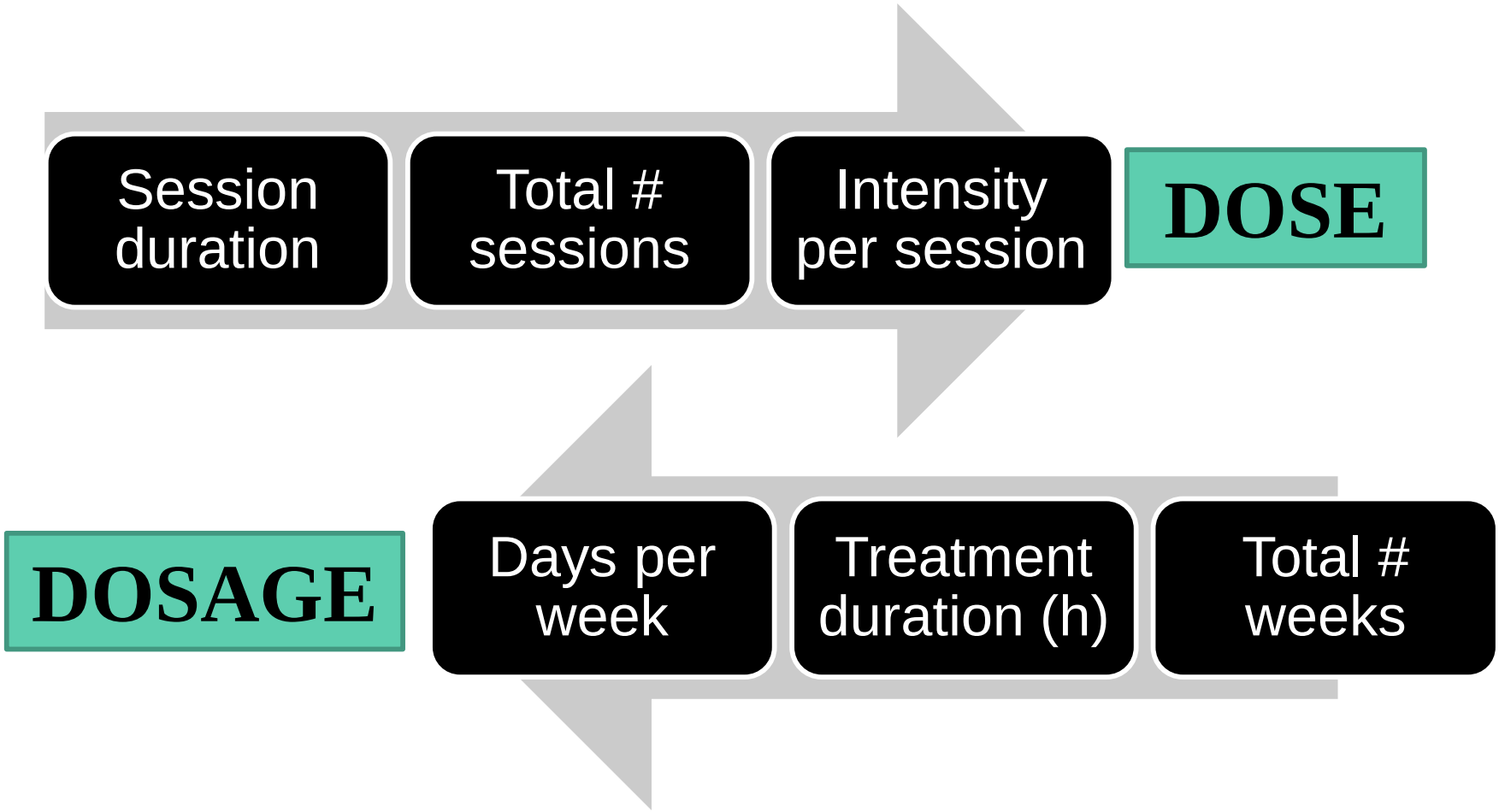
KEY ISSUES: Variability



4. Discussion

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KEY ISSUES: Interventions vs. recomendations

Most frecuent experimental interventions

- Gait training.
- Conventional therapy.

Literature most recomended interventions

- High-intensity aerobic excercise.
- Virtual reality treadmill.

4. Discussion

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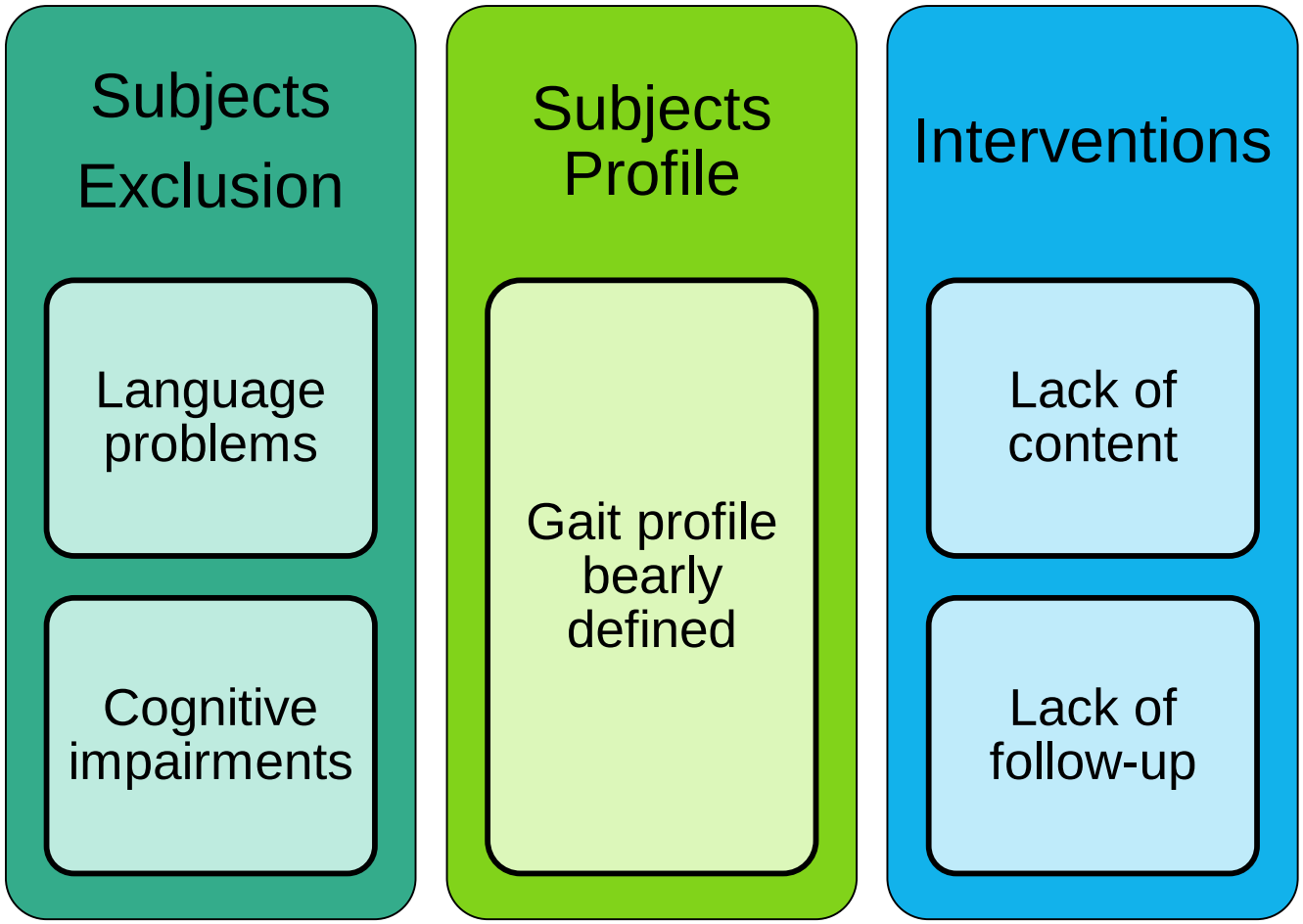
KEY ISSUES: Generalization and replicability



4. Discussion

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KEY ISSUES: Limitations.

Synthesis

Studies differ considerably about interventions and assessment data collection

Quality and proven interventions

Specific sample characteristics, procedure, specific activities, session´s duration…

4. Discussion

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FUTURE STUDIES

- Appropiate dosage and dose in gait rehabilitation.
- Common language using ICF → Assess the three functional dimensions.
- Include gait level stratification.
- Clinical protocols that integrate assistive technology, self-managment stratagies and combine recomended interventions

4. Discussion

FUTURE STUDIES

RECOMENDED INTERVENTIONS:

- Improve deficits (e.g. functional electrical stimulation or VR and walking practice along others...)
- Improve activity (e.g. tailored repetitive walking practice).
- Moderate to high-intensity training combining with treadmill and overground sessions.
- General physical activity (e.g. cardiorespiratory fitness training).

5. Conclusion

In conclusion, this systematic review aims to serve as a change in the belief of the six months as a maximum time period to achieve recovery, which has a negative impact on the attitudes of patients towards their rehabilitation and on therapists making optimal training plans.

Nevertheless, the literature shows that besides the different rehabilitation techniques, improvements of some stroke-induced deficits can even be achieved in the chronic phase.

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