Cognitive Strategies for Improving Activity Level Outcomes Post Stroke: A Scoping Review

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Background

- Majority of stroke survivors experience cognitive impairment acutely[1]
- Stroke survivors with cognitive impairments have poorer physical recovery and reduced functional outcomes[2]
- Cognitive impairment interferes with rehabilitative therapy, with more deficits predicting lower engagement levels[3]

Methods

Medline (Ovid), Embase (Ovid), PsycINFO (Ovid), CINAHL and Scopus were systematically searched and screened by two independent reviewers for articles that met the following criteria:

Population
- Stroke survivors aged 18 years and older

Concept
- Cognitive-strategy based interventions aimed to improve activity-level performance and rehabilitation engagement

Context
- Peer-reviewed articles limited to human-based studies and the English language, excluding reviews, commentaries, text and opinion papers

Data Synthesis:

The included articles were synthesized narratively based on whether the intervention used a 1) domain-specific, 2) domain-general or 3) mental practice approach. The intervention components were extracted using the TiDieR checklist[4] and the quality of the articles were rated using the QuADS tool[5]

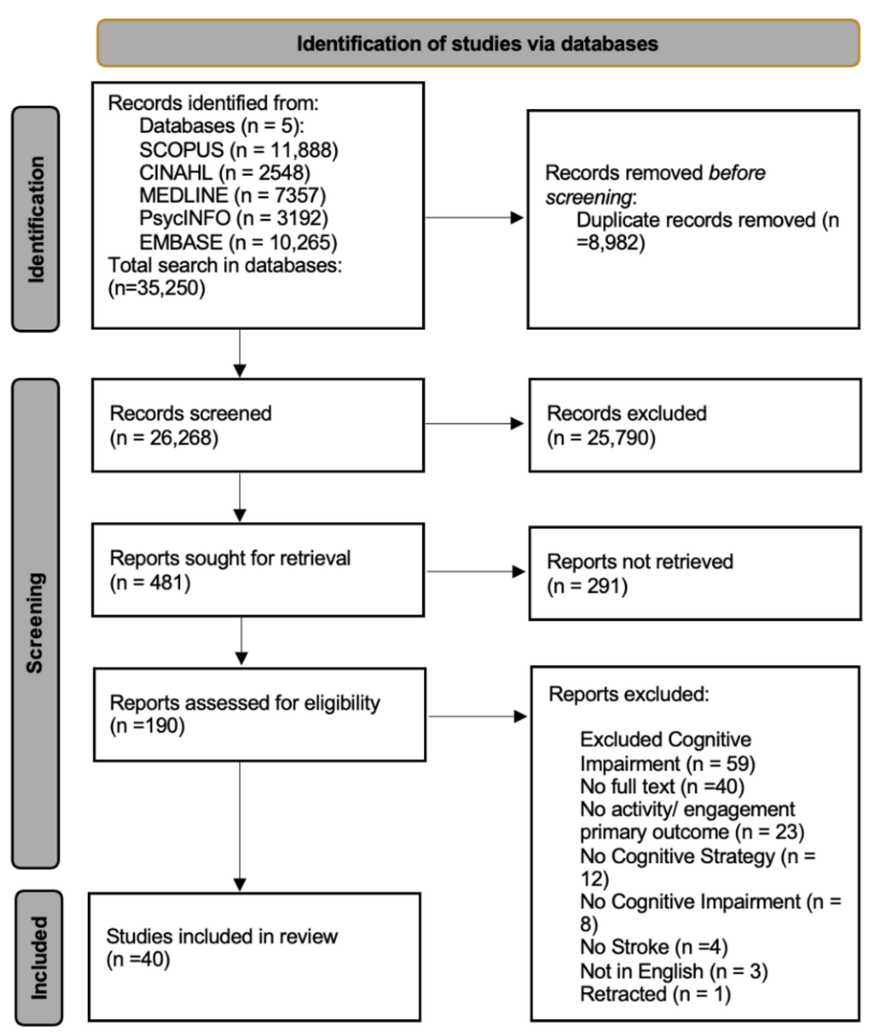
Objectives

- **What** are the current **cognitive interventions** that aim to improve rehabilitation performance at the **activity level**?
- **Which outcome measures** were used to assess the intervention?

Findings

- **20** articles described **domain-specific** interventions
- **12** articles described **mental practice** interventions
- **8** described **domain-global** interventions using the CO-OP approach

- **45 different outcome measures were used.** Many in only one study. **Barthel Index** and **Functional Independence Measure** were the most used assessment tools (n=10 studies each)



Conclusions

Interventions could be categorized into; global, domain-specific, or mental practice interventions.
- Domain specific studies are mainly looking for transfer effects to function of improving the cognitive domain itself
- Mental practice interventions often exclude people with moderate cognitive impairments - most suitable for intact cognition?
- Domain-global interventions focus on meta-cognitive approaches to functional activities, though the intervention is standalone
- Call for a better understanding of how post-stroke cognitive impairment is affecting functional outcomes and integrating cognitive strategies into motor/physical therapy in a tailored approach.

REFERENCES:
[1] Milosevich et al (2024). Domain-specific cognitive impairment 6 months after stroke: The value of early cognitive screening. Int. J. Stroke
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[3] Lowder et al (2022). Cognitive impairment predicts engagement in inpatient stroke rehabilitation. Int J Rehab Research
[4] Hoffman et al (2014). Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. BMJ
[5] Harrison (2021). Quality assessment with diverse studies (QuADS): an appraisal tool for methodological and reporting quality in systematic reviews of mixed- or multi-method studies. BMC Health Services Research

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