Effects of motor intervention in elderly patients with dementia: an analysis of randomized controlled trials

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CRD summary
The review assessed the efficacy of motor intervention for primary or secondary dementia. The authors concluded that motor intervention minimises the physical and mental decline inherent in dementia. However, few studies were found and the substantial differences highlighted between the included studies, as well as the small data sets, preclude firm conclusions.

Authors' objectives
To determine the efficacy of motor interventions for the treatment of elderly patients with dementia, using trials based on the criteria of the Physiotherapy Evidence Database (PEDro) (see Other URL).

Searching
MEDLINE, PubMed, LILACS, SciELO, PsycINFO, Evidence Based Reviews and Biological Abstracts were searched. The search terms were reported, but not the search dates. Only full-paper articles published in peer-reviewed journals were accepted.

Study selection
Randomised controlled trials (RCTs) and quasi-randomised controlled trials meeting PEDro criteria, relating to physiotherapy, occupational therapy and physical education as motor interventions for patients with primary or secondary dementia, were eligible for inclusion. Most of the interventions were physiotherapy related, although interventions relating to occupational therapy and physical education, as well as an interdisciplinary approach, were also included. Motor interventions were directed at at home or institutional attendance and, where stated, lasted between 2 weeks and 6 months with varying frequency and intensity. The outcomes of interest varied across studies and included: cognitive performance, psychosocial functioning, behaviour, Activities of Daily Living (ADL), instrumental ADL, risk of falls, mobility, physical health and function, affective status and caregiver's distress. In general, participants presented with a diagnosis of Alzheimer or vascular dementia, although participants with Alzheimer-related disorders and mixed and undifferentiated dementia were also included. The mean age of the participants ranged from 78.5 to 87 years.

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
Where possible, the quality scores for the included studies were taken from the PEDro database. PEDro criteria include random allocation, concealment of allocation, comparability of the groups at baseline, blinding (patients, therapists and assessors), analysis by intention-to-treat, and adequacy of follow-up. The studies were given a quality score, the highest possible score being 10. The validity of studies not yet classified by PEDro were not assessed.

The authors did not state how many reviewers performed the validity assessment.

Data extraction
For each study, the type of statistical analysis and the significance level of outcome measures were extracted. The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The studies were combined in a narrative.

Results of the review
Ten RCTs (n=1,400) were included in the review: 4 related to physiotherapy, 3 to occupational therapy, 1 to physical education and 2 to an interdisciplinary approach. The study size ranged from 25 to 274 participants.

Seven studies were awarded a PEDro quality score: these ranged from 3 to 7. All of these studies had used random allocation, with appropriate eligibility and adequacy analysis between groups. Three studies had yet to be classified by PEDro.

A statistically significant effect of motor intervention was found in psychosocial function (1 study, n=44), physical health and function (1 study, n=153), affective status (1 study, n=153) and caregiver's distress (1 study, n=109). There was no significant difference between the intervention groups for mobility (1 study, n=81). Outcomes of behaviour, cognitive performance, ADL and risk of falls were not similar across the studies and the results were inconsistent.

**Authors' conclusions**

Motor intervention helps to minimise the physical and mental decline inherent in dementia.

**CRD commentary**

The review question was supported by inclusion and exclusion criteria relating to PEDro. The inclusion criteria appeared broad in terms of the intervention and population, and no a priori inclusion criteria were reported for the outcomes. Several databases were searched. It is not clear if the search was restricted by language and unpublished material was not sought, thereby raising the possibility of both language and publication bias. Review methods for the study selection, validity assessment and data extraction processes were not reported and, as such, the possibility of reviewer error and bias cannot be assessed. The quality of most of the included studies was assessed and the results reported. There was considerable variation between the studies and, as a consequence, a narrative synthesis was appropriate. Details of the comparator used and the presentation of actual effect sizes and confidence intervals would have been useful to confirm the findings in the review. Lack of reporting of review methods, differences between the included studies and a lack of information preclude the drawing of any firm conclusions and mean that the authors' conclusions may not be reliable.

**Implications of the review for practice and research**

Practice: The authors did not state any implications for practice.

Research: The authors stated that further studies are required to evaluate the the effects of motor intervention variables on treatment.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.