Strategies for rehabilitation professionals to move evidence-based knowledge into practice: a systematic review

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CRD summary
This review concluded that active multi-component knowledge translation interventions to enhance knowledge and practice behaviours of physical therapists appeared effective. More research was needed. Despite some concerns with the review process, the authors’ cautious conclusions reflected the results of this review of heterogeneous evidence and may be reliable.

Authors’ objectives
To assess the effectiveness of single or multi-component knowledge translation interventions for improving knowledge, attitudes and practice behaviours of rehabilitation clinicians.

Searching
MEDLINE, CINAHL, AMED, EBM Reviews, PEDro, OTseeker and Research and Development Resource Base in Continuing Medical Education were searched from inception to June 2008. References of retrieved articles and Web of Science were checked. Search terms were reported. Only studies published in English or French were eligible for inclusion.

Study selection
Randomised controlled trials (RCTs) or observational studies that examined the effectiveness of knowledge transfer interventions for improving knowledge, attitudes or practice behaviours of occupational therapists or physical therapists were eligible for inclusion. Knowledge transfer interventions were defined as a means of exchanging evidence-based information with the goal of optimising patient outcomes and maximising the potential of the health system.

Physical therapists and occupational therapists were represented in the included studies. Interventions evaluated included opinion leaders, outreach visits, reminders, interactive educational sessions and online resources. The intensity of the intervention was between five and eight hours, where reported, except for one study in which it was 62 hours.

Two reviewers independently selected the studies.

Assessment of study quality
Two reviewers independently assessed the studies for validity. RCTs were evaluated with criteria drawn from the Pedro scale of randomisation, allocation concealment, blinding, completeness of follow-up, use of intention-to-treat analysis and treatment of withdrawals and dropouts. Trials were given a score out of a possible 10 points. Observational studies were assessed on selection and representativeness of study sample, description of intervention and outcomes, ascertainment of outcome and adequacy of follow-up. A level of evidence was applied to each research question.

Data extraction
Two reviewers independently performed data extraction using a standardised form. Data were extracted on the direction and statistical significance of the treatment effect for each outcome assessed.

Methods of synthesis
The studies were combined in a narrative synthesis grouped by the nature of the intervention (which included whether it was single- or multi-component) and by the outcomes evaluated.

Results of the review
Twelve studies (n=1,015) were included in the review. Sample sizes ranged from seven to 332. Four studies were RCTs, five were before-after designs and three were case series. Two RCTs scored 3 points on the PEDro scale, one scored 6 points and one scored 7.
Moderate evidence from one high-quality RCT and two well-designed before-after studies suggested that active multi-component knowledge translation interventions for physical therapists were effective in improving knowledge acquisition and changing practice behaviours.

Limited evidence from two case series suggested that an active single-component knowledge translation intervention may have been effective in improving knowledge acquisition by occupational therapists and one before-after study suggested improvements in attitudes toward evidence-based practice. There was no evidence on the efficacy of such interventions for physical therapists in improving knowledge acquisition. One RCT found no difference in attitudes toward evidence-based practice or in changing practice behaviours.

**Authors' conclusions**

Use of active multi-component knowledge translation interventions to enhance knowledge and practice behaviours of physical therapists appeared effective. More research was needed.

**CRD commentary**

The review question and inclusion criteria were clear. The search was extensive, but the decision to limit the review to published studies reported in English or French may have resulted in the omission of some relevant studies and may have introduced language and publication biases into the review. The authors reported that they used methods designed to reduce reviewer bias and error at all stages of the review process. Appropriate criteria were used to assess validity of included studies. The decision to adopt a narrative synthesis was reasonable in view of the clinical and methodological heterogeneity of the included studies, but was somewhat reliant on counting the numbers of studies showing particular directions of effect without reporting the statistical results themselves. Despite the risks of inclusion biases and some concerns with the synthesis, the authors' cautious conclusions were based on the evidence of this review of mixed quality and heterogeneous evidence and may be reliable.

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

**Practice:** The authors stated that matching of knowledge transfer interventions to the clinician's environment and their specific learning style should be considered.

**Research:** The authors stated that further research was required to assess the impact of knowledge transfer interventions on the knowledge and practice behaviours of occupational therapists. Research was required to assess the impact of knowledge transfer interventions on patient outcomes.

**Funding**

CIHR (Innovations in Patient Safety and Knowledge Translation) program, Faculty of Medicine, University of Toronto; Fond de la recherche en sante du Quebec; Canada Research Chair Award; Alberta Heritage Medical Research Foundation.

**Bibliographic details**


**PubMedID**

19893996

**DOI**

10.2340/16501977-0451

**Original Paper URL**

http://www.medicaljournals.se/jrm/content/?doi=10.2340/16501977-0451

**Indexing Status**
Subject indexing assigned by NLM

MeSH
Education, Continuing; Evidence-Based Practice; Health Knowledge, Attitudes, Practice; Humans; Occupational Therapy /education /manpower /standards; Outcome Assessment (Health Care); Physical Therapy Specialty /education /manpower /standards; Professional Competence; Rehabilitation /education /standards

AccessionNumber
12009110042

Date bibliographic record published
10/02/2010

Date abstract record published
03/11/2010

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.