Multifaceted strategies may increase implementation of physiotherapy clinical guidelines: a systematic review

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CRD summary
This review concluded that multifaceted educational meetings were effective in improving some outcomes of professional practice, but not patient health or care costs. The authors’ cautious conclusions reflected the limited evidence base, but given the small number of studies of limited quality and uncertainty over parts of the review process the reliability of the conclusions is uncertain.

Authors' objectives
To assess the effectiveness of strategies to increase the implementation of physiotherapy clinical guidelines.

Searching
MEDLINE, EMBASE, CINAHL, PEDro and The Cochrane Library were searched from 1966 to October 2007; minimal search terms were reported. Reference lists of retrieved studies were searched for additional studies.

Study selection
Studies were eligible if they were randomised controlled trials (RCTs), controlled trials, controlled before and after studies or interrupted time series studies that investigated strategies to increase implementation of clinical guidelines by physiotherapists working in clinical practice in order to improve professional practice and/or patient health or reduce cost of care. The clinical guidelines were required to be produced by a professional, health or government organisation, to be publicly available and be based on the results of a systematic review.

In the included studies, strategies were assessed to increase implementation of whiplash guidelines in Australia, low back pain guidelines in The Netherlands and low back pain guidelines in UK. Interventions were multifaceted (combination of interventions) based on interactive educational meetings. Outcomes were categorised as professional practice, patient health or economic outcomes. Follow-up ranged from six months to 12 months.

The authors did not state how studies were selected for the review.

Assessment of study quality
Methodological quality of the included studies was assessed by an adapted checklist from the Effective Practice and Organisation of Care (EPOC) group. The criteria included concealment of allocation, follow-up of patients and professionals, blinding of outcomes, baseline measurements, reliability of primary outcome measures and protection against contamination.

Two reviewers independently undertook the quality assessment. Disagreements were resolved by consensus or consultation with a third reviewer.

Data extraction
Data on outcomes were extracted for analysis by two reviewers independently. The authors did not state how differences were resolved.

Reviewers calculated risk difference (RD) and risk ratio (RR) with 95% confidence intervals (CI) for dichotomous outcomes and mean difference (MD) and 95% CI for continuous data. Effect sizes were adjusted for baseline differences where possible.

Methods of synthesis
Studies were described and synthesised in a narrative format. The authors intended to use a random-effects model to pool outcomes of studies where applicable, but no pooling was undertaken.

**Results of the review**

Three cluster RCTs (from five publications) were included. Trials included 909 patients who were treated by 170 physiotherapists. Studies scored a mean of 4 out of 7 (range 3 to 5) on the EPOC group criteria. All trials had protection against contamination and baseline measurements. None of the trials had good agreement in the rating of primary outcomes. Two of three trials had concealment of allocation, follow-up of patients and blinding. One of three trials had follow-up of professionals.

Each of the following significant results were based on the findings of one of the included studies and reported the unadjusted risk difference. Educational meetings were effective in increasing adherence to some recommendations of low back pain guidelines: limiting the number of sessions (RD 0.13, 95% CI 0.03 to 0.23), using active intervention (RD 0.13, 95% CI 0.05 to 0.21), giving adequate information (RD 0.05, 95% CI 0.00 to 0.11), increasing activity level (RD 0.16, 95% CI 0.02 to 0.30), and changing attitudes/beliefs about pain (RD 0.13, 95% CI 0.01 to 0.24). Educational meetings were effective in increasing adherence to some recommendations of whiplash guidelines: reassuring the patient (RD 0.4, 95% CI 0.07 to 0.74), advising the patient to act as usual (RD 0.48, 95% CI 0.15 to 0.8) and using functional outcome measures (RD 0.62, 95% CI 0.32 to 0.92). There was no evidence that patient health improved.

**Cost information**

There was no evidence that the cost of care was reduced (two studies).

**Authors' conclusions**

Multifaceted interventions based on educational meetings to increase implementation of clinical guidelines may improve some outcomes of professional practice, but do not improve patient health or reduce the cost of care.

**CRD commentary**

The review had a clear research question and appropriate inclusion criteria. A number of relevant databases were searched. The authors did not report whether searches were restricted to studies in English and whether attempts were made to find unpublished studies, so language and publication bias could not be excluded. A limited number of studies were included, which made it difficult to draw explicit conclusions. Methods throughout the review process were mostly appropriate; it was not clear how the selection of studies was undertaken, so reviewer error and bias could not be excluded. The study quality assessment tool was appropriate, but the included studies had some methodological flaws. Significant findings were reported separately for the three individual studies and this limited the strength of the conclusions. The studies mostly assessed effects on a variety of different outcomes that reflected the process of care. The method of synthesis was appropriate, given that different outcomes based on two different types of guidelines were measured in the included studies.

The authors' conclusions were appropriate and reflected the limited evidence base, but they acknowledged that it was not clear what the best intervention strategy was. Given this uncertainty, the limited evidence base and the shortcomings in the trials and the review process, the reliability of the conclusions is uncertain.

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

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

**Research:** The authors stated that further implementation trials and strategies were required to increase the implementation of guidelines specific to the physiotherapy profession.

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