Can aspects of physiotherapist communication influence patients' pain experiences: a systematic review

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CRD summary
This review assessed the effects of verbal communication on perception of pain. The authors concluded that physiotherapists' communication may influence patients' experiences of pain, but research in clinical settings is required. There was limited evidence from generally poor-quality laboratory studies in healthy people, and this may not generalise to patients with existing pain. The conclusions about further research appear reliable.

Authors' objectives
To determine whether aspects of physiotherapist-patient communication could influence the patients' experience of pain.

Searching
MEDLINE (from 1966), PsycINFO (from 1967), CINAHL (from 1982), AMED (from 1985), the Cochrane Controlled Trials Register (from 1998), PEDro (from 1929), EMBASE (from 1990), the Chartered Society of Physiotherapists' library system (including dissertations and thesis databases), the Cochrane Library, HTA and SMART (from 1994) were searched to 2003 for reports in English. Two independent searches were performed and the search terms were reported. In addition, three key journals (specified) were handsearched. The reference lists in selected studies were checked and used to obtain a list of experts in the field; other reports by these experts were then traced.

Study selection
Study designs of evaluations included in the review
With the exception of expert opinion and descriptive studies, which were excluded, all study designs were eligible for inclusion.

Specific interventions included in the review
Studies of verbal interventions designed to influence perception of a painful stimulus were eligible for inclusion. Studies of medication or surgical interventions were excluded. The included studies used information before the painful stimulus, reinforcement with feedback between each stimulus, and coping statements. All but one of the included studies were conducted in a laboratory; the remaining study was conducted in a hospital.

Participants included in the review
Studies of adults aged 18 years or older who were able to communicate fully and had no cognitive impairment were eligible for inclusion. The pain investigated in the study had to have a clear and well-accepted pathophysiology or aetiology. Studies of patients with psychogenic or psychological pain were excluded, as were studies of terminally ill patients or patients receiving palliative or end of life care, or patients with neurological conditions.

The majority of the participants in the included studies were undergraduate students. A minority of the participants were already experiencing pain (chronic back pain). Other participants included patients requiring arteriotomies, employees of a psychiatric hospital and 'healthy' volunteers. In the included studies, pain was induced using various techniques such as electrical stimulation, a blood-pressure cuff, arteriotomy and the cold pressor test.

Outcomes assessed in the review
Studies that measured changes in the patients' perception of musculoskeletal pain, either subjectively or objectively, were eligible for inclusion. All but one of the included studies measured pain using a visual analogue scale. The studies also assessed pain threshold and pain tolerance.

How were decisions on the relevance of primary studies made?
One reviewer screened abstracts, while a second reviewer independently screened a random selection of abstracts. Inter-reviewer agreement was 100%.

**Assessment of study quality**
The studies were assessed and scored on the basis of the following: well-described inclusion criteria; sample size of 50 or more patients per treatment group; randomised treatment allocation; reporting of relevant baseline characteristics; less than 10% drop-outs; intervention well described; double-blinding; treatment effect measured and well described; intention-to-treat analysis; and results presented such that the analysis could be checked. Each criterion scored 1 if met, 0 if not met, or 0.5 if unclear or partially met. The maximum possible score was 10 points. The criteria were based on a validated scale and scoring system (references were reported). The authors did not state who performed the validity assessment.

**Data extraction**
The data were extracted onto a form, but the authors did not state how many reviewers performed the data extraction. Quantitative data other than the numbers of participants and validity scores were not reported in the review.

**Methods of synthesis**
How were the studies combined?
The studies were grouped according to the type of intervention (reinforcement, placebo/analgesic suggestion, attention and distraction/coping statements) and combined in a narrative.

How were differences between studies investigated?
Differences between the studies were discussed in the text of the review.

**Results of the review**
Eight studies (n=412) were included: 6 randomised controlled trials (n=343), one time series (n=25) and one single-group paired experiment (n=44).

The quality scores for the studies ranged from 3.5 to 7 out of 10. Methodological flaws included small sample sizes, a lack of randomisation and inadequate reporting of raw data.

Only one study (n=30) included patients with pre-existing pain. None of the studies examined interventions aimed at changing pre-existing pain.

Two of 3 studies of reinforcement (positive/negative) found that verbal reinforcement could increase or decrease pain reports. One small poor-quality study found no reduction in pain with verbal reinforcement.

Two of 2 studies found that positive or analgesic suggestions increased the pain threshold. One study found that describing the pain in between painful stimuli decreased pain tolerability. One study found that publicly made coping statements increased pain tolerance in comparison with privately made coping statements. One study found that coping strategies increased pain tolerance when compared with no intervention.

**Authors' conclusions**
The studies suggest that aspects of physiotherapist communication may have the potential to influence the patients' experiences of pain, but further research in clinical settings is required.

**CRD commentary**
The review question was clear in terms of the intervention, participants and outcomes. The interventions studied were general and not specific to patient-physiotherapist interactions. The inclusion criteria for study design were broad. The
search appeared comprehensive and included attempts to locate unpublished studies. The authors acknowledged that they made no attempts to minimise language bias. The selection of studies was not done entirely in duplicate, and it was unclear whether any efforts were made to reduce errors and bias in the validity assessment and data extraction processes. Validity was assessed using specified established criteria.

Adequate information on the characteristics of the included studies was either presented in tabular format or described in the text, but the results were not reported in detail (this might have been because the relevant data were not reported in the primary studies). The narrative synthesis was appropriate given the variability among the studies. In the review, there was limited evidence from generally poor-quality studies predominantly conducted in laboratories, mostly in participants without pre-existing pain, and none of the interventions were aimed at changing the patients' pre-existing pain. The authors' conclusions reflect the evidence presented and the need for further research in clinical situations.

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

Practice: The authors stated that it was important for physiotherapists to be aware that therapist-patient interactions can influence outcomes. They stated that, where possible, negative influences should be minimised and positive influences used to improve outcomes for patients.

Research: The authors stated that well-designed randomised controlled trials are required to examine the effects of physiotherapist communication on the pain experiences of patients with musculoskeletal pain in clinical settings.

**Bibliographic details**


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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.