Low back pain prevention's effects in schoolchildren: what is the evidence?
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CRD summary
This review concluded that, though the majority of the results of intervention studies were promising, there was no evidence that educational intervention programmes can prevent lower back pain in schoolchildren. Despite the potential for relevant studies to have been missed and the limited included evidence, these conclusions appear appropriate.

Authors' objectives
To determine which interventions are used to prevent back problems in schoolchildren, and the evidence for their utility.

Searching
PubMed was searched for relevant studies published in the English language from 1995; the search terms were reported but the dates searched were unclear. Electronic searches were supplemented with citation tracking, searches of personal databases and expert knowledge.

Study selection
Study designs of evaluations included in the review
The authors did not state any inclusion criteria relating to the study designs. Where reported, included studies were of pre-test post-test or quasi-experimental design.

Specific interventions included in the review
Studies evaluating interventions for low-back pain (LBP) prevention were eligible for inclusion. The specific interventions included a 'Swedish back school' delivered by trained primary-school teachers, a physical therapist-led back education programme, a 30-minute presentation on proper wearing of a back-pack, a posture hygiene programme and a body-consciousness programme.

Participants included in the review
Studies including participants under the age of 18 years who were not seeking treatment were eligible for inclusion. Where reported, the mean age ranged from 9 to 12.7 years. One study reported including children aged 6 to 15 years.

Outcomes assessed in the review
The authors did not state any inclusion criteria relating to the outcomes. The outcomes in the selected studies included level of knowledge or recall, prevalence of back pain and neck pain and perceived disability, use of back-care principles, back-pack wearing posture, motor skills and medical treatment for LBP. A variety of measurement techniques was reported.

How were decisions on the relevance of primary studies made?
Two reviewers independently selected papers for the review.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Heterogeneity was not formally assessed, but the main differences between study characteristics were apparent in the narrative synthesis and accompanying tables.

Results of the review
Five studies (n=3,067) were included in the review.

All five included studies evaluated a school-based intervention programme consisting of a variable number of hours of education. Four of the five studies reported a reduction on some measure of pain associated in the educational intervention group, but each of these studies had methodological limitations.

Authors’ conclusions
Despite some positive findings, there was no evidence that LBP in schoolchildren can be prevented by educational intervention programmes. In addition, the evaluated programmes were very different from one another, making comparison difficult. These studies also had several methodological limitations.

CRD commentary
This review addressed a broad question, which was defined only in terms of the participant and intervention inclusion criteria. Electronic searches were supplemented by the investigation of other sources of potentially relevant material. However, no additional electronic databases were searched, studies without English language abstracts were excluded, and it was unclear whether attempts were made to identify unpublished research; all of these may mean that some relevant studies were missed. Two reviewers selected the studies, with the aim of reducing the influence of potential errors and bias. The validity of the included studies was not formally assessed, although some aspects of study quality were discussed in the narrative synthesis. The authors’ conclusions, that the evidence was limited in quality and quantity, seem appropriate on the basis of the studies retrieved by the review.

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 with a follow-up into adulthood were needed to evaluate the long-term effect of early interventions.

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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.