Prevention of falls in the construction industry: evidence for program effectiveness

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Authors' objectives
To review the evidence for the effectiveness of different strategies to prevent falls from heights in the construction industry.

Searching
The authors used the Cochrane Collaboration search strategy (see Other Publications of Related Interest no.1), to search MEDLINE, EMBASE, NIOSHTIC, PsycINFO and Dissertation Abstracts. Other relevant sources of information were identified by checking references and by consulting with experts in the field. A detailed description of the search strategy is reported elsewhere (see Other Publications of Related Interest no.2).

Study selection
Study designs of evaluations included in the review
Controlled studies in which the comparison group was either the same group before the intervention, or another group not exposed to the intervention.

Specific interventions included in the review
The inclusion criteria specified that interventions eligible for inclusion were: environmental modifications to the worksite; educational interventions to change worker behaviour; administrative interventions that reflected changes in company policy; and legislative interventions aimed at changing safety rules in a jurisdiction.

The specific interventions included in the review were: Washington State fall protection regulations, enacted February 1991; behavioural-based safety management focusing on housekeeping, access to heights and bamboo scaffolding; and posters and flyers aimed at scaffold fall safety, plus training seminars.

Participants included in the review
Workers in the construction industry of any age. The authors also included shipyard workers as the actual trades involved are classified in the construction industry.

Outcomes assessed in the review
The outcomes specified in the inclusion criteria were: self-reported falls; self-reported injuries; documented falls; and injuries, or measured or observed changes in behaviour.

Specific outcomes included in the review were: worker compensation claims for fall injuries; score on a standardised safety measurement instrument; and injury rates 2 years following the intervention, compared to those 2 years before the intervention.

How were decisions on the relevance of primary studies made?
Abstracts were independently screened by two investigators to identify possible articles for inclusion. These articles were then obtained and independently screened by two investigators to determine if they met the inclusion criteria.

Assessment of study quality
The authors state that the methods of the review followed the guidance issued by the Cochrane Collaboration (see Other Publications of Related Interest no.1). The type of control group and use of appropriate multivariate analyses were discussed in the review. The authors do not state how the validity assessment was performed.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data were extracted on: population and location, intervention, outcome, study type, results, and comments.

Methods of synthesis
How were the studies combined?
The authors combined the studies narratively.

How were differences between studies investigated?
Heterogeneity, in terms of methodological quality and interventions investigated, was discussed narratively.

Results of the review
Three studies met the inclusion criteria. One had an ecological design and 2 were before-and-after comparison studies.

The ecological study found some evidence that regulations with enforcement may decrease falls in the construction industry, but due to lack of appropriate control groups the findings are unclear. Two studies on educational efforts suggested that educational programmes may decrease falls, but methodological limitations restricted the conclusions that could be drawn.

Authors’ conclusions
There are few data to support the effectiveness of current programmes to decrease fall-related injuries in the construction industry. Rigorous evaluation of these interventions is indicated.

CRD commentary
Overall, the methodological quality of this review was good. The review addressed a clear, well-defined question and the authors had undertaken a comprehensive literature search. They sought unpublished studies and included studies from non-English language countries, but they did not assess publication bias. The authors report that the methodological quality of the included studies was low but they did not report what validity scale they used to draw these conclusions, although some methodological features were discussed. The authors presented sufficient details of the included studies, although the number of participants included in each study was unclear. The narrative synthesis was appropriate and the limitations of the literature were discussed. The authors' conclusions are supported by the results presented.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors report that further research should be undertaken in the form of randomised trials where possible; observational studies such as case-control designs are also appropriate. Interventions should be theory driven, using models such as the PRECEDE model of Green et al. (see Other Publications of Related Interest no.3).

Bibliographic details

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Other publications of related interest

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Subject indexing assigned by NLM

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