The impact of worksite-based safety belt programs: a review of the literature


Authors' objectives
To determine the effectiveness of worksite intervention programs to increase the use of safety belts by employees.

Searching
The US Centres for Disease Control and Prevention conducted an initial search for literature published between 1968 and 1994 on the impact of workplace health promotion programmes on health outcomes. This included workplace safety belt programmes. The authors conducted an additional search using many resources including electronic searches of databases within education (ERIC), behavioural and social sciences (PsycFIRST) and government documents, using the following keywords: 'safety belt', 'seat belt', 'traffic safety', 'automobile safety' and 'worksite health promotion'. Appropriate government agencies (NHTSA and US Department of Transportation) were contacted for additional information. No additional studies were identified.

Study selection
Study designs of evaluations included in the review
Articles related to worksite safety belt programmes were included. The design of the primary studies included evaluations without comparison or control groups, and those with a comparison group but no randomised control.

Specific interventions included in the review
The interventions included the following worksite-based safety belt promotion programmes: incentive prompts under contingent and non-contingent reward conditions; incentive-based programmes; partial reinforcement (intermittent schedule) of safety belt use; educational awareness session combined with incentive-based programme; incorporation of safety belt awareness sessions into occupational safety programmes using traditional lectures and employee discussion; emphasising link between safety belt use and personal vulnerability; safety belt use campaign including poster campaign, pledge card, and t-shirt incentive; incentive programme plus modest awareness campaign; awareness sessions with and without intervention or pledge card; media campaigns using incentive and disincentive approaches; and non-incentive-based programmes in an area with safety belt legislation. The control groups included: non-participants in the StayWell programme; workers at different worksite locations; vehicles in a separate white-collar parking lot; different vehicles at contingent and non-contingent parking lots; and vehicles at a busy intersection adjacent to the study campus.

The evaluation periods ranged from 25 days to 1 year.

Participants included in the review
The participants included both personnel and vehicles in the following categories: summer session faculty or staff from educational facilities; employees at industrial centres and transport facility (both blue-collar and white-collar); personnel at a US Army facility; individuals and vehicles travelling through a campus or a Naval Base; non-participants in the StayWell programme; white-collar workers parking in a parking lot; and vehicles adjacent to study sites.

Outcomes assessed in the review
Safety belt utilisation rates were assessed.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality

Database of Abstracts of Reviews of Effects (DARE)
Study design was evaluated with regard to randomisation, utilisation of controls, and the level of statistical analysis. Each article and associated research design was evaluated and rated using a 5-point scale. Studies that were evaluated without a comparison or control group were rated as 3 stars, whilst those with a comparison group but no randomised control were rated as 5 stars.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction. The following data were extracted: author, year, purpose of evaluation or research, sample size, sample description, comparison group, evaluation period, outcome measures, evaluation or research design, and research findings.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Fourteen studies were included. These involved 13,235 employees, 1,886 drivers of motor vehicles, and 155,562 observations of motor vehicles.

There was a lack of published studies after 1990. At the time of the review, 48 states and Columbia had laws requiring the use of seat belts. These laws varied considerably. The results from the review were severely limited due to threats to internal validity in the vast majority of the research designs employed. The studies failed to control for events and trends related to safety belt use occurring in society outside of the workplace. All studies were conducted during a period of intense safety belt social marketing programmes, which were conducted in association with the passage of safety belt laws.

The findings were suggestive rather than conclusive. The studies suggested a variable increase in safety belt use with the interventions. The results appeared to vary with the characteristics of the participants. Most of the studies that included a follow-up measure showed relapse, but not usually to the baseline levels.

The vast majority of the programmes were incentive-based. The authors considered that the dearth of studies on non-incentive-based programmes made it difficult to summarise the results.

Authors' conclusions
Based on the literature, there appeared to be an insufficient number of quality research studies from which to derive a clear view of the impact of worksite safety belt programmes. While the evidence was suggestive of a positive impact on safety belt use, there is a need for new, well-designed research initiatives on the effectiveness of theory-based safety belt intervention programmes.

CRD commentary
The aim of this review was clearly stated. Attempts were made to locate relevant studies. Details of the studies were tabulated clearly. A narrative review was appropriate given the heterogeneous nature of the interventions, settings, designs, and participants. The discussion considered the problems encountered with the study methodology.

No details were given of the methods used to select the primary studies, extract the data or assess validity.

The authors' conclusions are supported by the evidence presented.
Implications of the review for practice and research
Practice: The authors did not report any clinical implications for practice.

Research: The authors consider there is a need for studies on the effectiveness of all types of safety belt intervention programmes, including evaluation of the rate of recidivism once the incentives are removed.

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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.