Increasing physical activity with point-of-choice prompts: a systematic review

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CRD summary
The authors concluded that point-of-choice prompts were able to increase the rate of stair climbing especially in escalator settings; prompts appeared less effective in elevator settings. The authors' conclusions appeared to reflect the evidence, but a lack of reporting of study quality made the reliability of the findings unclear.

Authors' objectives
To evaluate the effectiveness of point-of-choice prompts to encourage stair climbing.

Searching
MEDLINE, EMBASE, PsycINFO and The Cochrane Library were searched for studies published between January 2001 and May 2008. Search terms were reported. Studies identified by a previous review were included (see Other Publications of Related Interest). Conference abstracts and studies not published in English were excluded.

Study selection
Studies of any design that compared stair-climbing rates for any point-of-choice intervention to encourage stair climbing that included stair-climbing rates before the intervention or that included a control group were eligible if they reported a quantitative outcome. Studies could use any kind of prompt, be in any population and have any duration of intervention. Studies that reported combined results for stair ascent and descent were excluded.

Most studies evaluated poster prompts; other studies evaluated stair-riser banners or poster plus stair risers or floor graphics. Posters were placed near staircases and escalators/elevators. Most interventions were set in public transport stations, shopping malls or office buildings. Most interventions lasted between two and four weeks (range one to 14 weeks). Most results were reported for escalator settings; others were in elevator settings. Most studies were conducted in UK or USA.

Two reviewers independently selected studies.

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

Data extraction
Two reviewers independently extracted rates of stair climbing before and after the intervention together with levels of statistical significance of the difference. Odds ratios (OR) with 95% confidence intervals (CI) were presented for some studies. For multiphase intervention studies, data were extracted only for the first phase.

Methods of synthesis
The studies were combined in a narrative synthesis.

Results of the review
Twenty-five studies were included (n=1,070,675). These studies reported 42 results. Sample size ranged from 1,779 to 158,350 people.

Thirty-one of the 42 comparisons reported a significant increase in stair climbing from baseline, 10 results reported no statistical significance and one study reported a decrease in stair climbing. Statistically significant increases ranged from 0.3% to 10.6%.

Baseline rates of stair climbing ranged from 17% to 71% in elevator settings and from 0.4% to 41% in escalator settings.
Three of 10 results in elevator settings reported a significant increase in stair climbing from baseline.

Twenty-eight of 32 results in escalator settings reported a significant increase in stair climbing from baseline.

**Authors' conclusions**
Point-of-choice prompts were able to increase the rate of stair climbing, especially in escalator settings. In elevator settings, prompts appeared less effective.

**CRD commentary**
The review question was clearly stated. Inclusion criteria were broadly but appropriately defined. Several relevant sources were searched. No attempts were made to minimise publication and language biases (the potential for missing studies was acknowledged by the authors). Study validity was not assessed and so results from these studies and any synthesis may not be reliable. Methods were used to minimise reviewer errors and bias in study selection and data extraction. A narrative synthesis was appropriate due to differences between studies. Some limitations of the review were discussed. No details were reported of methods used to measure outcomes and why studies reported more than one outcome measure was unclear; use of multiple outcomes from individual studies may have influenced the review findings.

The authors' conclusions appeared to reflect the evidence, but a lack of reporting of study quality made the reliability of the findings unclear.

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

**Research:** The authors stated that future research should use well-designed studies to identify the most effective type of point-of-choice prompts in different settings and have a longer follow-up period.

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**MeSH**
Elevators and Escalators; Exercise /physiology; Health Behavior; Health Education /methods; Health Promotion
Record Status
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.