Patient education in the emergency department: a systematic review of interventions and outcomes

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CRD summary
This review examined the effect of patient education in emergency departments. Most interventions were effective at achieving learning goals. But, the review had methodological deficits and lacked information about study populations, so it was uncertain to what extent the conclusions of the study could be applied to education in emergency departments in general.

Authors' objectives
To describe educational approaches tested in the emergency department, outcomes used to assess the approaches and evaluate the effectiveness of educational interventions delivered in the emergency department.

Searching
MEDLINE (from 1990), CINAHL, ERIC, EMBASE, HealthSTAR, EBM Reviews, Global Health (from 1990) and Dissertation Abstracts International were searched for relevant articles as indicated or from inception to autumn 2005. Search terms were listed. Reference lists and bibliographies were also searched.

Study selection
Eligible studies were evaluative research studies that involved an educational intervention delivered to adult patients (18 years or older) who presented to the emergency department for treatment (or to adults accompanying a child) and who were subsequently discharged home. Evaluative research studies included randomised controlled trials, quasi-experimental and observational designs. The included studies reported on 21 unique interventions. Most interventions used multiple teaching methods. Teaching methods included written information, didactic lectures (face to face or video / audiotape), discussion, and demonstration. Some interventions provided supplies for the participants to use (such as condoms, home safety kits and pocket electrocardiograms).

The authors did not provide details of the study populations. The educational interventions focused on a wide range of subjects including asthma, injury prevention, whiplash-associated disorders, smoking cessation, general health promotion, chest pain, alcohol abuse, AIDS awareness and medications.

Outcome criteria were not pre-specified. The outcomes reported by the studies included cognitive outcomes, affective outcomes and psychomotor measures.

The authors stated neither how the papers were selected for the review nor how many reviewers performed the selection.

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

Data extraction
The authors stated neither how the data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis
The studies were combined using text and tables. Weston and Cranton's framework for the design and evaluation of educational interventions using Bloom's taxonomy of learning domains was used to guide the analysis.

Results of the review
Nineteen studies were included (10 randomised controlled trials and nine quasi-experimental studies). The total number
of participants could not be derived, but individual studies had sample sizes of between 52 and 635 participants. The quality of the studies was not described, although the authors indicated that randomised controlled trials were well described.

Thirteen of the 19 studies reported statistically significant improvements in learning in the intervention groups; three studies reported improved outcomes for some of the learning objectives; and three reported no improvement in learning.

Learning goals that were successfully met in the different studies included: knowledge and understanding; reduction in risk behaviours; compliance with instructions; satisfaction with instructions; reduced anxiety; use of correct inhaler technique; increased home safety behaviour; reduced alcohol-related injuries; and decrease in unscheduled emergency department visits.

Authors' conclusions
Educational interventions in the emergency department were both possible and feasible and may be an effective means of meeting learning goals.

CRD commentary
This review was based on a thorough search of a variety of electronic databases and supplementary sources. The research question and inclusion criteria were clearly stated. Data were summarised according to a pre-defined classification system. But, important parts of the description of study methodology were lacking, namely the description of study selection, data extraction and validity assessment. A clear data summary was presented using the classification system specified, but no information on study participants was provided and no indication of the quality of the studies was given. The results were presented narratively without giving numerical data that might have provided an idea of the magnitude of the effects found. No attempts were made to identify and summarise effective versus ineffective components of the interventions (especially in studies comparing different active interventions). Given the methodological deficits of the review and the lack of information about the populations studied, it was uncertain to what extent the conclusions of the study could be applied to education in emergency departments in general.

Implications of the review for practice and research
Practice: The authors stated that the emergency department was an increasingly important point of contact for people known to be frequent emergency department users (such as those with asthma). In view of the effectiveness demonstrated by the studies examined, this opportunity to disseminate health information should not be missed.

Research: The authors stated that future research should be theoretically driven. Interventions that used novel approaches such as role-play, games and simulations should be tested. Methodological research that refined outcome assessment for health education generally and in the emergency department specifically was needed. Future research regarding self-management conditions such as asthma should focus on learning outcomes for higher level cognitive and affective functions.

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